4496

ANNUAL REPORT

TO THE

CITY OF BIRMINGHAM EDUCATION COMMITTEE

OF THE

SCHOOL MEDICAL OFFICER

George A. Auden, M.A., M.D. (Cantab.), Ph.D. (Birm.),
F.R.C.P. (Lond.), D.P.H. (Camb.).

INCLUDING THE REPORT ON THE
SPECIAL SCHOOLS,
BY
Charles L. C. Burns, M.R.C.S., L.R.C.P., D.P.M.,

FOR THE

Year Ended 31st December, 1934.

In accordance with circulars 576 *and* 596
of the Board of Education.

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CONTENTS.

ELEMENTARY, SECONDARY AND NURSERY SCHOOLS.

	PAGE.
Introduction	5
Nutrition	8
Provision of Meals	11
Distribution of Milk in Elementary Schools	11
Dental Treatment	12
Tonsils and Adenoid Clinic	14
Speech Training Classes	19
Orthopaedic Scheme	20
Ophthalmic Clinics	21
Secondary Schools	23
Nursery Schools	24
Camp Schools	25
Cottage Homes and Boarded out Children	26
Remand Homes	26
The Unemployment Act, 1934	26
Verminous Children	27
Ringworm and Scabies	27
Child Guidance Clinic	28
Psychological Methods in Vocational Guidance	33
Tuberculosis	34
Diphtheria Immunisation	35
Ultra Violet Light Treatment	40
Physical Education	42
Deaths in Children of School Age	44
Conclusion	45

SPECIAL SCHOOLS.

Medical Inspection and Treatment	48
Schools for Mentally Defective	48
Baskerville Residential School	49
Open-Air Schools	50
Schools for the Partially Sighted	53
Summer School for Defective Children	54

Official Tables	59

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*Part time Officers.

ANNUAL REPORT

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SCHOOL MEDICAL OFFICER

GEORGE A. AUDEN, M.A., M.D. (Cantab.), Ph.D. (Birm.), F.R.C.P.
(Lond.), D.P.H. (Camb).

For the Year ended 31st December, 1934.

ELEMENTARY, SECONDARY AND NURSERY SCHOOLS.

The year under review has not been marked by any notable events or changes. The number of routine and special inspections carried out in the elementary schools was 3,043 more than in 1933, and constitutes the highest number yet recorded. To this must be added the 8,005 examinations of secondary school children, which is higher by one thousand than in the previous year.

On the dental side also the number of children treated (40,482) was only 385 behind the record figure for 1933. Thus, if judged by figures, the year stands out as one of steady uneventful work, and these figures probably represent the maximum which can be reached without additional members of the medical staff.

Another feature which may be regarded as satisfactory is the percentage of children found to require treatment, which is less than in previous years, viz. : entrants 20.1, intermediates 20.2, leavers 17.9. I have pointed out in previous reports that these percentages must not be taken as an index of the real health conditions of the child population. These figures merely represent a numerical count of every form of ailment whether trival or severe, which is noticed in the course of medical inspections, in which count a trivial and temporary condition such as impetigo, skin-ringworm, incipient flat foot, has the same value as a severe heart disease or a paralysed limb.

Dr. A. T. Wynne, B.D.S., M.R.C.S., L.R.C.P., joined the Dental Staff as part-time Dental Officer at Bordesley Green Clinic at the beginning of the year.

In August, Dr. Dickinson resigned her post as Assistant School Medical Officer on her marriage, and was succeeded by Dr. V. H. King. In October, Mrs. Tyler, who was transferred from the service of the Health Department in 1915 resigned on superannuation after 27 years' service in connection with the campaign against verminous conditions.

Apart from the addition of a staff-room to the Aston Clinic, Albert Road, the only structural change in connection with the clinics has been the re-modelling and extension of the bath accommodation at Great Charles Street Clinic which allows more adequate dressing room and better supervision of the baths.

The average number of children on the Register of Public Elementary Schools in December, was 138,920, while the average daily attendance was 125,934. Compared with the corresponding numbers in December, 1933, there were 5,779 fewer children on the rolls of the Public Elementary Schools.

The clinic in Slade Road, Erdington, which was opened at the end of 1933 has proved its value to the parents and children in that area. But the enormous development of housing right up to the northern boundary of the City which is so rapidly filling up the area extending from Hamstead to New Oscott, including the Kettle House Estate, will render the need for additional clinic accommodation increasingly pressing when the houses will have become homes and the schools to be built there are receiving the children who live in them.

The same need is becoming apparent in other directions. Until a few years ago the clinics were more or less central in the areas which they served, but with the rapid peripheral expansion of the city on all sides and its resultant re-distribution of the population certain of the clinics are much less accessible to large numbers of those who live near the City boundaries. The question of additional clinic accommodation to serve the large area on the south side from King's Norton to Yardley Wood will need consideration. There are three clinics to which children from this extensive area find their way, viz., Alcester Street, Harborne Lane and Sparkhill, but whichever clinic they may attend the journey is a long one and entails a monetary outlay which many parents can ill afford.

In his last Annual Report, the Chief Medical Officer of the Board of Education expressed the fear that the halt in the continuous expansion of the School Medical Service caused by the financial depression of the last three years may come to be viewed with a complacency which may too readily blunt the desire for further progress. He writes:

> "Now it may be true, or not, that this system, *i.e.*, of school medical inspection, applied to all the children of all the Elementary Schools, a system which has steadily been growing in adoption throughout the country (and has extended to many other countries), has reached a stage when it tends to become routine, perfunctory or even static. If that be true, some of the responsibility for such a condition must rest upon the Board, the Local Education Authorities or the school medical officers, or upon all three. The work is arduous, insistent in its demands, continuously repeating itself, sometimes disappointing, sometimes restricted by the dominant necessity of economy, apt to open up new and difficult fields of investigation, always claiming more than can be yielded, or perhaps

achieved. But if it becomes "monotonous," or perfunctory, there must be something deficient somewhere. It is no more monotonous than any other kind of travelling or exploration, by land or sea or air. Possibly by the term "static" is meant that the School Medical Service remains as designed, and is not sufficiently virile, supple and elastic to adopt new methods and push out upon hitherto untrodden paths."

The science of medicine is advancing with ever greater strides and the results of new discoveries and new methods should be at the service of every child whose condition demands their application. It is not to be expected that local education authorities should of themselves provide every detail and all the paraphernalia of such advances in methods of treatment of disease and morbid conditions, but it is within their power to secure that any such form of treatment should be somewhere available by co-operation with the hospitals and kindred institutions in the neighbourhood. Future progress would seem to lie in a closer co-operative effort which will cover the whole field of childhood and adolescence without gaps and without overlapping.

In other parts of this report reference will be found to certain important advances which have recently been made in the application of new inventions for the better alleviation or removal of defects. The Gramophone Audiometer for the ascertainment of partial deafness, the Multitone for the introduction of the wholly deaf child to the joyous world of sounds, and the fusion-training apparatus for the correction of squint. Each of these inventions marks an advance in method which open new fields and offer new possibilities.

The year has seen an important step towards a closer co-operation between the Education Committee through the Special Schools Sub-Committee and the Children's Hospital, designed to deal with the question of Rheumatism in children. While primarily dealing with the children who are examined for admission to, or while inmates of, Baskerville, this scheme has a direct bearing upon the general problem of the supervision of the "rheumatic children" discovered in the course of medical examination. Very many of these find their way to the Children's Hospital where an attempt is now being made to interview and examine all children who are on the register of the Rheumatic Clinic.

In this connection Mr. Mathews, Secretary of the Birmingham Invalid Children Association has supplied the following report on the results of the after history of that association since its foundation ten years ago. These results give testimony to the value and success of prolonged treatment and supervision of rheumatic cases.

	Haseley Hall.	*Boarded-out in the Country.*
At work and doing well	45	76
At work and doing fairly well	8	13
At school and doing well	13	3
At school and doing fairly well	6	2
Doubtful	3	2
Dead	2	4
Lost sight of or withdrawn	18	11
Relapsed or progressed	1	4
Total	96	115

The function of the School Medical Service is to relieve and as far as possible to prevent the disabilities of childhood. This function is shared with other services in the community, notably the Health Department, the Public Assistance Committee, and also the voluntary organisations. Chief amongst these is the Children's Hospital which ministers to the needs of the children and makes provision for every type of disease to be found in children, and by the establishment of special departments gives opportunity for the application of new developments in scientific medicine and surgery.

How great an amount of work for the children of the City is done by the other Voluntary Hospitals cannot be ascertained, but during the year there were admitted to Dudley Road Hospital 1,996 children between the ages 3 to 15, and 1,777 to Selly Oak Hospital.

The Children's Country Holiday Society works in very close association with the Education Department and very many sickly children or convalescents from acute illness are thereby enabled to have a change of air, for a month, and a chance of re-cuperation. 345 children (130 boys and 215 girls) were received at the Hadley Home, Conway, of whom 305 were recommended by the School Medical Officers. Each child is examined before the journey is undertaken both by Dr. Kemp and by a School Nurse, and the parents are urged to take their children for re-examination on their return. In addition to these, 1,618 children had a holiday in the country.

The main features of the treatment accomplished by the School Medical Service may be gauged from the following summary:—

Tonsil and Adenoid Operations	1,307
Minor Ailments Treated	17,097
Children treated for Dental Defects	40,482
Mastoid Operations at Selly Oak Hospital	9
" Short Stay " Operations at Selly Oak Hospital	11
Children treated by Ionization (for Otorrhoea)	391
Refractions for Eye Defects	3,731
X-Ray Treatment for Ringworm	62
Ultra Violet Ray Treatment	2,137
Examinations under Bye-Laws for Employment of Children	2,417
Examinations for Theatrical Licenses	51
Examinations for Intending Teachers	88
Examinations of Boarded-out Children	673

NUTRITION.

The question of the nutrition of the children throughout the country has for the past two years been prominently before the public, but has not always been discussed with due regard to the complexity of the problem.

In the first place it is not easy to define what is meant by the terms "nutrition" and "malnutrition," with the result that these terms are often used loosely. It should be remembered that most children gradually get a stronger grip on life as they emerge from infancy, and improve in robustness as they grow, unless definitely retarded by actual disease. This fact is attested by the low general death rate in the age periods 5 to 10 and 10 to 15. Moreover, growth from infancy to adolescence is cyclic rather than uniform, periods of growth in height or "growing up" alternate with periods of "filling out" accompanied by increase in weight. Again mere size, as gauged by height and weight, is misleading for it depends upon racial, familial and individual physiological factors which so largely condition development at any given time that a child may shew a 10 per cent. variation from the average of children of his age without any real evidence of ill health. Thus a child may be small and under-size and yet show no signs of inadequate nutrition. Moreover, various chronic infantile diseases may end in complete arrest or recovery and yet leave a permanent effect upon the growth and development of the child which may be mistakenly described as malnutrition. Still more potent factors in the prevention of full and adequate development are the social conditions of the home, overcrowding, verminous conditions, and all the concomitants of the slum-dwelling, carelessness, apathy or ignorance of the parents and perhaps more important than these, the lack of a full measure of sleep. All these play a malign part in reducing the general bodily development and the attainment of a full measure of health, and the influence of these factors must be evaluated before arriving at the conclusion that the condition is one of malnutrition due to lack of food.

The next difficulty is one of nomenclature, for the terms "good," "normal" "bad," etc., are too indefinite and too much subject to the personal equation of the observer to be of real value for statistical or comparative purposes. In our own records we make use of the method of record introduced by the late Professor Von Pirquet of Vienna for the various Associations which dealt with the children in Central Europe after the War and is still used extensively on the Continent. Put shortly, this method records the four chief points to which attention should be directed for the assessment of nutrition. These are (1) the quality of the blood and the degree of anaemia (*Sanguis*), (2) the amount of fatty covering of the body (*Crassitudo*) (3) the elasticity of the skin and subcutaneous tissues (*Turgor*) and (4) the degree of muscular tone and development (*Musculus*). The vowels are used to represent the observed condition. Thus the normal healthy child will be represented by the SACRATAMA, but an anaemic, thin, wasted under-nourished child will be indicated by SOCROTOMO and so on.

It is true for the year 1934, as was stated in the report for the previous year, that the children in Birmingham do not shew evidence of that malnutrition which is encountered in the depressed areas. The total number of children found in the routine inspections as shewing evidence of malnutrition, (organic conditions such as anaemia being excluded) was only 1.04 per cent. and if those only who were considered to be in need of treatment, as distinct from observation, are taken into consideration, the percentage is only .42 of the whole. Similarly of the special inspections the percentage is 1.2. (See Appendix, Table ii).

Children presenting symptoms of subnormal physical development come to the notice of the Assistant School Medical Officers from three sources :—

(1) In the course of routine inspections in the schools.

(2) Children presented for special examination at the schools.

(3) Children brought up by their parents for consultation at the clinics.

A large proportion of the children thus examined are suffering from conditions of general debility and anaemia for which ultra-violet light treatment, an open-air school curriculum, a period in a convalescent home, or in the country under one of the various voluntary agencies is indicated, for which the appropriate steps are taken.

Cases of simple malnutrition in which the absence of a specific physical cause gives a presumption of inadequacy of food are, as has been stated above, so far as Birmingham is concerned, rare. This diagnosis, however, must remain a presumption until it has been verified by a visit to the Home by a responsible person, for in the final issue the validity of this presumption has to be gauged on economic grounds, *i.e.*, on the amount of money available for the purchase of food for the family and on the parents' capacity to make the best use of the food bought.

This investigation into the general character of the home and the economic circumstances of the family is of profound importance because there are many children who shew no objective or obvious signs of true malnutrition who are living below the "poverty line" and whose margin of safety is thereby reduced so that they tend to suffer from a succession of ailments and infections from which recovery is slow and convalescence delayed with only general indications of ill-health. The measurable and ostensible indications are slow in declaring themselves, and to wait until these are present is to wait till the damage has been done. It is clear that the remedy here cannot be discovered by a medical examination alone but to this must be added an investigation into the economic situation of the home.

Each School Medical Officer makes a routine practice of discussing cases which they discover with the Head Teacher, and makes enquiry of the parent as to their economic position. A very large number are found to be already in receipt of free meals. Some parents refuse them on various grounds of objection.

The Medical Officer either refers the cases to the Head Teacher for further action or sends in a recommendation for consideration for free meals. Should the School Attendance Department report that the family is above the accepted scale the case is referred back to the Medical Officer concerned and it is kept under observation, and any other methods for the alleviation of their needs are followed.

That the provision of free meals does play an important part in the prevention of malnutrition from inadequate food cannot be gainsaid. Evidence in favour of this view is forth-coming from an investigation carried out in June last when a number of children were examined who had been in continual receipt of meals for a considerable period of time. The impression gained was that the very large proportion of these children give the appearance of health and fitness, despite the fact that the housing and general social conditions under which they have lived are such as would be likely to be conducive to ill-health. This would appear explicable on the grounds that they have been enabled to have a varied, ample and well-balanced diet, containing all those ingredients, vitamins, etc., which are recognised as enabling the body to put up a resistance to disease and infection, but which are sorely lacking in the diet of the very poor. This general impression is voiced by several of the Assistant School Medical Officers in their reports of the results of their examinations. For example:

(1) "All the free meal children whom I have examined have been healthy, well-nourished, and have compared favourably with normal children. Their home circumstances have been so poor that I have felt that the free meals have been largely responsible for maintaining these children in good health."

(2) "The children examined seemed to have plenty of vitality—all have thrived on free meals. If meals had been catered for at home as the clothing has been looked after, they would have been less flourishing."

(3) "Personally I have the feeling that the uniform good condition of these children is directly attributable to the meals. No 'controls' were examined and no strict comparison is attempted, but all the children were alert and active, with a gratifying firmness of flesh and absence of anaemia. Undersized children like John and Mary G— are nevertheless healthy and wiry. It is impossible to tell what the children would have been without the free dinners, but the anaemic appearance of the mother in the case of the B— family seems significant."

(4) "I saw to-day the D— family. One gathers that their home conditions are neglectful as the clothing is in poor repair. Nevertheless the gain in weight is quite marked in three of the children and the muscles firm. All have a sallow but not unhealthy colour."

(5) "My impressions are that the one good meal in the day is doing very definite good in all cases. Although all are from very poor families, there are no symptoms of debility such as are commonly met with in poorly fed children. I am sure the meals are badly needed in these cases, as I have had the Head Teachers' opinions on the home conditions in many instances."

PROVISION OF MEALS.

No change has been made in the dietary, a description of the alterations to which was given in the report for 1933, nor in the economic scale upon which the free meals have been granted. This mid-day meal is distributed at 24 centres under the Education Committee and at a number of centres under contract which varies from time to time. At the present time there are 28 such contract centres.

The improvement in the economic position in the City generally is reflected in the reduction in the number of meals supplied and in the total number of children who have received them.

	1932.	1933.	1934.
Total meals provided	1,471,320	1,518,347	1,048,144
Daily average, 1st Jan.	2,442	4,185	3,313
Daily average, 1st July	4,384	4,114	2,756
Daily average, 31st Dec.	4,090	3,358	2,393
Total number of children who have received meals	9,249	11,098	7,331

DISTRIBUTION OF MILK IN ELEMENTARY SCHOOLS.

For some 9 or 10 years past there has existed a scheme for the supply of milk in the schools under the general organisation of the Milk Publicity Council. Though purely a voluntary organisation, a great majority of the Departments in the Elementary Schools shared in the scheme, and 78.6 per cent. distributed milk in some form or another. In the middle of the year the daily consumption of milk was estimated at 650 gallons taken by 15,500 children.

When the new scheme came into operation on 1st October, whereby one-third of a pint of milk is obtainable for a half-penny, the figures quickly mounted up—

Week ended.	*Consumption of liquid milk.*
28/9/34	14,960 bottles
19/10/34	65,100 ,,
14/12/34	*61,700 ,,

*(No return from 2 Departments).

Liquid milk was being supplied in 367 departments, dried milk in 37 departments, including 5 departments in which both liquid and dried milk are supplied. Many parents ask for some warm drink during the winter months, and prefer the dried milk on the ground that the children do not like cold milk. This is not strictly true, when the milk is taken slowly through the straw, and the alleged preference generally arises by suggestion from the parents.

Every milk vendor who supplies milk is kept under the supervision of the Health Department, and throughout the City the milk supplied to the schools under this scheme is pasteurised. It was felt that under the circumstances pasteurisation alone can offer the necessary safeguard against a possible contamination of the milk, and the dissemination of milk-borne infections.

DENTAL TREATMENT.

During the year ended 31st December last, 129,481 children were inspected in the schools. Of these, 84,031 (64.9 per cent.), were found to need treatment. The number who received treatment at the hands of the School Dental Surgeons was 40,482 (48.1 per cent.). As has been pointed out on a previous occasion, without very elaborate machinery it is almost impossible to ensure that children moving from one school to another as the result of the re-organisation of the schools, or as a consequence of migration to a new housing estate, are not recorded twice. A similar difficulty is encountered in the case of children attending schools which have been visited by the Dental Surgeon more than once in the course of the year. Every care has, however, been taken to make the foregoing figures as accurate as possible.

A comparison of the figures of 1934 with those of 1933 shows that the percentage of children found to need treatment decreased from 70 per cent. to 64.9 per cent., whereas the proportion who actually received treatment at the clinics increased from 45.7 per cent. to 48.1 per cent. This decline in the percentage of children needing treatment as the age of the children advances is evident from the following table. The decline is encouraging in that it gives proof that the conservative work of the School Dental Service is beginning to bear fruit.

Age.	*Percentage of Children needing Treatment.* 1932.	1933.	1934.
5	81.6	75.9	71.2
6	80.1	73.2	68.8
7	79.0	73.7	69.2
8	79.0	73.0	66.8
9	77.8	72.0	65.4
10	73.4	69.2	61.6
11	71.0	66.8	61.5
12	69.2	64.2	61.2
13	69.0	66.4	60.5
14	73.8	64.4	55.7

Furthermore, the number of children attending the clinics as "casuals" (*i.e.*, without definite appointments) has for the third year in succession decreased, the figures for the last four years being 5,543, 1,810, 1,525, 1,267. This seems to indicate an earlier appreciation on the part of the parents of the benefits to be derived from the School Dental Service. How many children received treatment from private dental practitioners is not easily determinable, but a conservative estimate would be five to six thousand, for there are approximately 300 dental practitioners in Birmingham, and if each of them has treated one child a fortnight, the number would be in excess of the latter figure. This would seem to be a moderate estimate of the amount of private dental treatment.

The arrangement for the posting of the notices to the parents pointing out the need of dental treatment for their children has been carried out in five of the nine districts. This method, in the putting into operation of which we are greatly indebted to the interest and willing co-operation of the teaching staffs of the schools concerned, obviates the danger of failure on the part of the children to deliver the notices to their parents, for, knowing their contents, the children not infrequently have destroyed them on the way home. It is, however, not easy to determine what has been the actual increase in acceptances which has resulted from this method, as there are many factors involved in obtaining the assent of parents to the treatment of their children.

In the report for 1933* it was pointed out that the suggested index of the conservative value of a School Dental Service, *i.e.*, the use of the proportion of fillings to extractions of permanent teeth for 100 children is misleading, but the accompanying table allows a comparison with the figures obtained in the last three years.

Area.	*Fillings per* 100 *children treated* (*permanent teeth*).	*Extractions per* 100 *children treated* (*permanent teeth*).
Birmingham, 1932	42.3	50.6
,, 1933	45.9	53.6
,, 1934	42.7	56.1

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*Annual Report, 1933, p. 13. "The proportion of fillings to extractions of permanent teeth which has been suggested as an index of this improved attitude, and of the success of a conservative scheme, is misleading, certainly in regard to the figures for Birmingham. Many permanent teeth which are not the subject of caries are removed for orthodontic reasons, either because of overcrowding, in order to allow space for the eruption of the wisdom teeth, or in order to produce a symmetrical bite. Again there is a not inconsiderable number of incisor teeth which have been broken by a fall or accident for which the extraction of the remaining portion of the tooth is necessary. Further, speaking generally, multiple extractions of four or more unsaveable teeth are more often indicated than a comparable number of teeth to be filled. These factors materially raise the proportion of extractions of permanent teeth in every hundred children treated at the clinics."

Orthodontic Treatment. The question of orthodontic treatment for the regulation of the teeth and the prevention of deformities of the jaw and palate needs consideration.

The liability to malformation of the jaws seems to be one of the results of modern civilisation and dietetic habit. Our food to-day consists almost entirely of soft foods which require little or no mastication. Much of the bread which we eat is made of flour from which every element but starch has been removed and there are good grounds for the belief that these factors have a very direct influence upon the growth of the jaws and the regular setting of the teeth.

Without some provision for the correction of these conditions no dental scheme can be said to be complete. I dealt with this question at some length in my report for 1930, from which the following quotation is taken :

> "The last report of the Chief Medical Officer of the Board of Education includes a special report by Mr. A. T. Pitts, Dental Surgeon of the Royal Dental Hospital and to the Great Ormond Street Hospital for Children, based upon an inspection of the dental schemes in ten representative areas. In his Report Mr. Pitts discusses this question, and suggests that in large areas special orthodontic centres should be established in the large towns, to which children could be referred, use being made of Dental Hospitals for this purpose where possible."

It was noted in this report that at the Dental Hospital it was only possible to treat 10 per cent. of the children presented out of a total of 742 new cases in 1930.

From a recent enquiry at the Dental Hospital I understand that after a drastic reduction by revision, there is a waiting list of 117 children, and 250 at present under treatment. I am assured that 80 per cent. of these are children from the City, but it is not possible to determine how many of these have been recommended from the School Clinics. A very considerable number of cases for regulation are dealt with in the clinics by appropriate extractions, indeed, as has been stated above, this is one of the causes of the relatively large number of extractions of permanent teeth in proportion to fillings. There are other cases, however, in which more prolonged treatment with orthodontic appliances under very specialised technique and experience is required which cannot be carried out at the School Clinics. How many of such cases would come within this category it is difficult to determine, but the Dental Surgeons consider that two a month would be the minimum number with which they meet. Thus 240 per annum might be taken as a basis for consideration.

TONSIL AND ADENOID CLINIC.

During the year the removal of tonsils and adenoids was carried out on 1,307 children, thus bringing the total number of operations since the opening of the clinic to 28,350.

On April 25th a child, age five years, seven months, died some minutes after the operation had been performed. At the inquest Professor Haswell Wilson gave evidence that there was a pronounced condition of *status lymphaticus*, together with a condition of middle ear infection which had tracked back from the unhealthy tonsils and adenoids, and the verdict was that the operation was necessary and that it had been performed with due skill.

At the end of the year, Dr. Bracey Dale retired from the post as Anaesthetist which he had held since the clinic was opened in October, 1913. His place has been filled by the appointment of Dr. J. A. Ainscow, Anaesthetist to the Royal Cripples' Hospital.

In this connection mention must be made of the generous help given by the Children's Hospital, through the late Dr. Gittins and his successor as Pathologist, Dr. J. H. Ebbs, in examining the blood reactions of any children who are reported by their parents to shew a tendency to excessive bleeding, and therefore to whom an operation for tonsilectomy or tooth extraction might be a grave risk.

Mr. Gilhespy, Aural Surgeon to the Education Committee reports :

"During the last year 406 new patients have been seen at the Great Charles Street clinic, and 702 children have been re-examined. Ionization treatment for the ear has been given on 391 occasions. Six patients have been sent to Selly Oak Hospital for the Radical Mastoid operation, and eleven others have had operations there on their accessory nasal sinuses. A certain number of children have been referred to the speech training classes for defects of speech, and these cases have been followed up and found benefited by treatment. These centres are a very necessary addition to the health services of the Committee.

Deaf mutes are being referred to me at an earlier age for entrance to the Deaf Schools, thereby giving these children an earlier chance of special education. (See page 18).

In another part of this report Dr. Auden has dealt with the difficulties attendant on the classification of the Deaf Child and the most suitable locale for its instruction. At a recent meeting of a Committee of the Board of Education at Whitehall, there appeared unanimity of opinion as to the classification of the severely deaf child, *i.e.*, one who could not hear at five yards, and the need for education at a Deaf School. The difficulty arises with children slightly less deaf, *e.g.*, say up to seven yards. I have the duty of signing up such children as 'Partially Deaf' and under present conditions in Birmingham they can be sent only to schools for the deaf. From my experience of Deaf Schools, the standard of teaching spoken language and lip-reading to the Deaf is extremely high in this City, but a certain number of children in any deaf community will always resort to the digital alphabet, and such children seen doing so in the vicinity of a deaf school create a disinclination among the parents of the partially deaf to send their own children to mix with children using their fingers instead of speech. Therefore frequently do I find difficulty in getting such parents to agree to their children being sent to a School for the deaf. My own feeling is that these children—Partially Deaf—should be taught together.

The present position is further complicated by the fact that certain mentally defective and at the same time deaf children find their way into the Deaf Schools. These children are probably incapable of learning lip-reading and are responsible for the digital method starting in a Deaf School.

Yet another difficulty arises, this time from the point of view of the special schools. A child of five may be thought to be mentally defective, but may also be suspected of deafness. It is very difficult to assess the relative importance of the two defects as it is extremely hard to say at that age how much mental defect may be due to defective hearing unless the child is kept under observation, and I think that the Deaf School is the place where this mental weeding-out process should take place. These children would then either be retained or returned for the appropriate school after a short course at the Deaf School. Sometimes at the present moment this type of child comes before me at a much later age when a good deal of time has been spent at the wrong school. I feel, therefore, that the Deaf Schools should not be over-burdened with mental defectives incapable of getting the best out of their teaching, and that the Deaf Schools are the best sorters of the young child whose mental backwardness may be partly dependent on his hearing. These views, I may add, to a great extent have the backing of the teachers of the deaf themselves."

The Partially Deaf Child. In several previous reports, *i.e.*, those for 1930, 1931 and 1933, I have drawn attention to the importance of the problems raised by the partially deaf children. The whole question is now under consideration by the Committee of the Board of Education, and it is therefore opportune to return to the subject.

The first difficulty arises from the absence of any clearly defined standards of hearing such as exist in the case of vision, where a mathematically arranged scale of visual acuity is possible. Moreover, the mechanism of hearing is more complex than that of sight, in that air-conduction, bone-conduction, and sight, in the form of conscious or unconscious lip-reading, all play a part in the apprehension and interpretation of speech sounds with the result that the degree of hearing capacity in any individual may appear to vary markedly from time to time. On the other hand, in the case of sight we are able to apply tests of acuity which are clear and definite in their application.

The second difficulty arises really out of the first, *i.e.*, that of arriving at any definite conclusion as to the number of children who come within the category of the "partially deaf." In order to arrive at some idea as to their distribution in the school population an enquiry was recently attempted. Each Assistant School Medical Officer was asked to make particular enquiries in each school visited for all children known to the Head Teacher to have any defect of hearing, to be presented for examination. Then knowing the number of children on roll, it should be possible to calculate the percentage of defective hearing. The results were as follows :—

	Number on roll.	*Number deaf.*	*Per cent.*
Dr. A.	9,513	43	.46
Dr. B.	4,492	18	.40
Dr. C.	5,546	26	.46
Dr D.	3,809	7	.2
Dr E.	6,549	18	.28
Dr. F.	5,081	48	.9
Total	34,990	160	.46

It is certain that these figures underestimate the numbers, for not only is it very easy for a teacher to overlook cases of partial deafness, but the conditions under which such an examination is made are not conducive to accuracy. Noise distractions, inattention, misunderstanding by the child, shyness, etc., all tend to upset the child under examination. Sometimes a child, recognising its own deprivations, but not perhaps its cause, will persistently seek the back row in order to escape observation and questioning. Even if we accept the percentage of .45 as an average of the school population of 138,900 children (December, 1934) we arrive at the figures of 638 children suffering from some degree of loss of hearing.

From the above remarks it will be clear that some more reliable means of mass testing is essential in order to sift out those children who have some hearing impairment and to be in a position to apply means of cure or alleviation to those in which the cause is due to some temporary or remediable cause, wax, catarrh, conditions of the nasopharynx, etc.

Without means of more accurate ascertainment we are working in the dark and therefore cannot take those measures which may cure or arrest a progressive deterioration of hearing which may play havoc with working efficiency and contentment in after years. Deafness isolates the sufferer more and more from his fellows, and is one of the more common causes of difficulty in finding or keeping employment. In the Gramophone Audiometer we have an instrument which in the hands of a trained observer enables us to separate those with full hearing capacity from those who require further examination and to estimate by units of measurement the degree of loss of hearing acuity. In the experience of those education authorities which are already making use of this instrument, seven per cent. of the children are brought out as needing a special clinical examination.

From time to time anomalous cases of hearing defect, especially that form known as high frequency deafness, are found which may very readily be taken to be cases of mental defect. All such cases, especially if there is a speech defect, should be examined for high frequency or for low frequency deafness.

Mention may here be made of a new application of the principles of sound conduction to the teaching of the Deaf. This apparatus—The Multitone—opens a new world to the totally deaf in introducing sounds into what has hitherto been a world of silence. This instrument which constitutes the most remarkable addition to the means at our command in teaching the deaf to speak, has been, through a generous donation, installed in the Moseley Road School for the Deaf, and enables the children who have any residium of hearing, to apprehend sounds.

Disposal.

It is generally accepted that it is preferable to separate into different classes or forms the truly deaf children, *i.e.*, those who live in a world of silence, from those who have a considerable amount of residual hearing. Their educational needs are different. It is for this reason it is preferable that only those partially deaf whose hearing is very defective should be sent to a special school for the deaf, and that those whose defect is less severe and can be eked out by lip-reading should be dealt with otherwise. The hard-of-hearing children with a moderate degree of deafness would, in my opinion, be best dealt with in lip-reading classes under a peripatetic teacher, on the same lines as the speech classes for stammering and other speech defects, held at centres in different parts of the area. Adverse psychological results may accrue to a child who has to go to a school which is different from that attended by his brothers and sisters and his neighbours, and except in cases in which this separation is inevitable, this course should be avoided. There is a large portion of the time-table and curriculum in which these hard of hearing children can join on an equality with their school-fellows—organised games, physical exercise, manual training, domestic science and the like. The hard-of-hearing children from a considerable area could attend classes for lip-reading at a centre, say three sessions in each week under an adequately trained teacher. Such a system would entail much less expense than that of whole-time attendance at a Deaf School, and would arouse far less opposition on the part of the parents. In fact these would have no grounds or opportunity for opposition, for the classes would be exactly comparable to attendance at a science or manual centre as part of the ordinary curriculum.

In an elementary school of average size, there would not be sufficient partially deaf children to warrant the visits of a peripatetic teacher to form a class in lip-reading. In the much larger German schools, as at Mannheim, I have seen a wall mirror as part of the class room equipment for use in lip-reading, in which the teaching was given by one of the ordinary staff. This method of dealing with the problem is also followed in Philadelphia and Baltimore. In America generally there is a feeling in favour of non-segregated schools for the various forms of defects discovered in the children attending the public schools.

The number of children certified as deaf remains about the same from year to year, viz.:

	Children.
1930	22
1931	17
1932	18
1933	28
1934	26
Total for the five years	111

It is very satisfactory, as is pointed out by Mr. Gilhespy (page 15), that more children are being presented for admission at an early age than formerly. Thus on 31st March, 1934, there were in attendance at the two Schools for the Deaf 11 children under five years of age, and 43 between the age of five to ten, *i.e.*, 42.5 per cent. of the total number.

SPEECH TRAINING CLASSES.

The scope of the speech training work has been increased by the appointment of Miss Fleming, who since September, 1934, has been in charge of the classes at Montgomery Street. Miss Rosser can now devote her whole time to the Severn Street Centre. As a result, the size of the waiting list has been greatly reduced, and it should now be possible to deal without any great delay with all the cases of speech defect which are found in the schools.

It is important that defects of speech in children should be reported by the age of 7 or 8 at the latest, for as the child grows older the defect becomes more difficult to cure. Not only does the defect hamper the child in the obvious way, by rendering natural communication with his fellows more difficult, but the sense of inferiority with which it is associated hampers his mental and psychological development. Early remedial speech training therefore is of vital importance to the whole being of the child. This fact is now very generally recognised, and it is a pleasure to record the willing co-operation of teachers and parents in the attempt to make the treatment a success.

Dr. Kemp reports:

> "I visit both centres from time to time to observe progress, and to examine any cases presenting difficulty. As far as time allows we conduct research into causation of defects, and investigate new departures in treatment. Very often domestic maladjustments play an important part in the causation of stammering, and home visits are paid with a view to their removal or rectification. It is hoped that in the near future we may have informal gatherings of parents at which talks may be given in the course of which parents will have the opportunity of discussing their individual children with the medical officer and the instructor.
>
> Miss Rosser and I have continued our investigation into the possible relationship between minor malformations and irregularities of the mouth, and defective speech. In connection with this study Mr. Stockwin, L.D.S., examined the teeth of 55 children suffering from speech defect and attending the Severn Street classes: his conclusion was that defective speech conditions are not definitely related to irregularity of teeth. We are inclined to believe that structural abnormality only provides a suitable field in which the seed of a speech defect may or may not be thrown by some psychological maladjustment. Specific abnormality in physical structure, and specific defect in speech appear to have no very strong connection. In certain cases where malformation of the mouth is obvious, plaster casts of the teeth and mouth are made by the dental surgeon in order to make clear the lines for immediate training, and also for record purposes.
>
> The results of treatment at both centres have been most encouraging, to an extent which cannot be shown merely by figures. In passing it is of interest to mention that in two instances the cure of stammering has been so complete that the late stammerer had entirely forgotten that he had attended a class until reminded by the after-care enquiry."

This loss of memory is of great psychological interest for it affords definite proof of the existence of an anxiety-state as the cause of the speech defect, and is itself, no doubt, largely contributory to the completeness of the success of the training.

The following table gives the figures for the year of the two centres (combined) :

	Boys.	*Girls.*	*Total.*
No. of names on Register, 1/1/34.			
Stammerers	57	7	64
Other Defects	13	5	18
	70	12	82
No. of children admitted during 1934.			
Stammerers	60	8	68
Other Defects	16	8	24
	76	16	92
No. of children discharged during 1934.			
Stammerers	32	4	36
Other Defects	3	5	8
	35	9	44

Results of Treatment (in those discharged during 1934).

	Stammerers.	*Other Defects.*	*Total.*
Provisionally Cured	10	3	13
Much Improved	15	5	20
Slightly Improved	9	—	9
Failed to continue Treatment	2	—	2
	36	8	44

In addition to these classes held in connection with the elementary schools, the speech classes under Miss Parsons, at the Children's Hospital have been continued. These classes are primarily designed to give training in speech production after operation for cleft palate and hare-lip, but include various forms of speech defect. Many of the children who attend are under school age.

ORTHOPAEDIC SCHEME.

There have been no special features in the work of the Remedial Exercises Clinics. Mr. Naughton Dunn, Consulting Orthopaedic Surgeon to the Education Committee, has visited from time to time to examine any special cases or cases in which further operative treatment is indicated and a considerable number have been admitted to the Royal Cripples' Hospital or to the Warwickshire Orthopaedic Hospital for this purpose under the joint scheme. In connection with this scheme the attendances of Birmingham children of school age at the out-patient department of the Royal Cripples' Hospital shew how large a part is played by that institution in the alleviation of the various forms of crippledom.

OUT-PATIENT ATTENDANCES OF CHILDREN OF SCHOOL AGE DURING THE YEAR ENDED 31ST DECEMBER, 1934.

Classification.	*Out-Patient Clinic.* *No. of Cases.*	*Out-Patient Clinic.* *Attendances.*	*Massage Department.* *No. of Cases.*	*Massage Department.* *Attendances*
Talipes, Club Feet, etc.	148	883	21	768
Congenital Deformities	40	155	12	565
Dislocated Hips	26	82	6	248
Spastic Paralysis	67	373	14	485
Infantile Paralysis	156	1,235	49	2,150
Birth Palsy	11	42	4	187
Rickets	108	412	14	396
Flat Feet	174	675	91	2,149
Scoliosis, Kyphosis, etc.	64	278	46	2,336
Fractures	14	54	—	—
Injuries	24	123	16	396
Amputations	7	46	—	—
Osteomyelitis	7	28	—	—
Arthritis	13	64	7	228
Perthes Disease, Synovitis, Kholers Disease	20	92	5	144
Unclassified	47	163	1	5
TOTALS	926	4,705	286	10,057

Average attendance per patient :—		
	Out-Patient Clinic	5.08
	Massage Department	35.16

The volume of work of the three Remedial Exercise Clinics is indicated in the following table:

Defect.	*Admitted.*	*Discharged.*
Spinal Curvature and Postural Deformity	276	264
General Muscular Debility	79	98
Various forms of Paralysis	43	13
Deformities of Feet	390	349
Chest Conditions, Asthma, etc.	102	96
Injuries to Limbs	13	13
Wry Neck, etc.	15	11
Total	918	844

In addition 778 children attended the Remedial Exercises Clinic for breathing exercises following the removal of tonsils and adenoids.

OPHTHALMIC CLINICS.

The number of children examined for errors of refraction in the different clinics was 3,731 from the Elementary Schools and 77 from the Secondary Schools, making a total of 3,808, which is 117 more than in 1933 and the highest figure yet attained. Of these 3,447 received spectacles. In addition 477 Elementary School children and 278 Secondary School children obtained spectacles through other sources.

It is a well-known fact that a squinting eye if left uncorrected becomes a blind eye and every attempt is made to begin the early correction of the squint in order to prevent this disaster. Much work is done in this direction for the children who attend the Infant Welfare

Centres in conjunction with the Children's Hospital. The supervision is continued, chiefly at Great Charles Street Clinic, as soon as the children reach school age, for the record cards from the Infant Welfare visitors are passed on to the Medical Department. If the treatment by glasses and other appropriate methods fails to secure satisfactory results the children may be admitted to the Eye Hospital under Mr. Archer Hall for operation. But recently designed optical apparatus is now available which may obviate the necessity of this resource to operation in many cases. A fusion-training clinic is now in being at the Children's Hospital where several of the apparatus have been installed. The House Governor reports that 150 new cases were admitted to the Department for fusion-training during 1934, and 61 were discharged as cured. In addition 122 children were placed on the waiting list until such time as they are old enough to be able to co-operate in the treatment, for it is not until the child has acquired the power of sustained attention and understanding of its share in the treatment that this can be applied with success.

A similar installation exists at the Eye Hospital.

Mr. Archer-Hall, Ophthalmic Surgeon to the Education Committee, reports:

> "During the year, seven hundred and eighty-two children attended my clinic at Great Charles Street.
>
> For four hundred and twenty-six, spectacles were prescribed, and the following errors were corrected in these children:

Hypermetropia	138
Myopia	36
Hypermetropic astigmatism	155
Myopic astigmatism	85
Mixed astigmatism	12

> It was found necessary to advise education at our Part-Sighted Schools, for twenty-seven patients. This figure is about the average. It is much below our maximum of forty. As in previous years, the large majority of the children so segregated, were cases of high degrees of short-sight.
>
> In the case of four infants of five years, or approaching school age, blindness was present, and these children were certified accordingly, for admission to the Royal Institution for the Blind at Edgbaston. In regard to this number, it is generally found that, within very narrow limits, this reflects the average number of certifications at the Clinic, in any year.
>
> Ten children were transferred to the Birmingham and Midland Eye Hospital for treatment under my care, of external diseases of the eye, and in the same Hospital, I performed forty-one operations for the correction of strabismus, squint, and five for congenital cataract, on patients referred from the Clinic.
>
> In connection with this subject of squint, mention must be made of the considerable help we have received from the Eye Hospital by its Fusion-training department (Orthoptic Department). Here fifteen cases have been successfully treated. In a number of cases,

full binocular, and stereoscopic vision has been obtained, in all parts of the field of vision. This has been achieved after many exercises. It will, however, be agreed that such a perfect degree of visual faculty is most desirable, and is a very different condition from that of monocular vision, with the association of an unattractive squint. In most cases, a combination of operation and fusion-training is necessary.

The formation of such a department, is well within the compass of the work of a School Medical Service, and I hope that one will be started soon in Birmingham, as the department at the Eye Hospital has quite a busy time dealing with its own patients. This new department, I have advocated in my reports of the last two or three years."

In addition to the above Dr. Aldridge has prescribed glasses for the following errors of refraction :

Hypermetropia	206
Myopia	54
Hypermetropic astigmatism	139
Myopic astigmatism	68
Mixed astigmatism	5

SECONDARY SCHOOLS.

The pupils attending secondary schools were inspected in the course of the year in accordance with the regulations of the Board of Education. The number inspected was 8,005. The results of these examinations bear testimony to the good average physique and development into adolescence of almost all of those in attendance, for, apart from dental disease and defective vision, both of which bear a large proportion to the total number, the defects found are mostly of a trivial character. The percentage of pupils charted as requiring treatment of one sort or another was 15.9.

The decision of the Education Committee to extend the facilities for treatment provided in the clinics has borne fruit, for 77 secondary pupils were treated for defective vision and 166 in the Dental Departments. It is difficult to arrive at an accurate figure as to those who received treatment elsewhere, but 278 obtained spectacles from other sources.

Though a very large majority of the secondary school population give evidence of robust growth, there is a small proportion whose development is not so satisfactory, though it will be noted that only twenty-four of the whole number were considered to be the subjects of malnutrition, of which number one half were not considered to be in need of any treatment.

It is, speaking generally, the younger pupils and especially the younger girls who feel the strain of the conditions of attendance at the secondary schools. The period 11 to 15 years is pre-eminently one of bodily "filling out" and of profound physiological changes. At the same time attendance at a secondary school for very many pupils entails a much more severe physical and nervous strain than does attendance at an elementary school. The distance to be covered often means an early start from home, involving a hurried and sometimes incomplete breakfast. This has to be taken with one eye on the clock and the necessity of catching a bus, train or tram at a particular time, and that during the rush hour, means a heavy nervous strain which falls with particular severity on the boy or girl of straitened home circumstances who is ambitious for learning and for getting on in school. Frequently these children who are in special need of ample and nutritious food bring some quite inadequate or even unsuitable food, sandwiches and the like, for their lunch. Growing boys and girls require more food than do adults, and under these circumstances these young pupils cannot gain full advantage from the education provided for them. Indeed it is to be feared that in some cases the strain involved may lead to an impairment of the physical and nervous stability which may be disastrous in later years. It should be noted that these children do not often shew the classical and obvious signs of malnutrition, for these do not show themselves until the harm has been done, if at all. The observant teacher however recognises the condition from a falling off in the quality of their work or in their reactions to the activities of school life.

This is a question which merits earnest consideration.

NURSERY SCHOOLS.

No alteration has been made in the Nursery School accommodation, but plans for extension are under consideration.

Dartmouth Street Nursery Class.

Accommodation, 32. Average attendance, 29.

Dr. Payton reports that the general health has been good on the whole, though there were 16 cases of measles and two of scarlet fever. Various children have received treatment at the clinics, viz. :

Removals of Tonsils and Adenoids	3
Prescription of Glasses for Squint	1
Dental Treatment	8
Ultra-Violet Light	4
Remedial Exercises	2
Total Dressings by the Nurse for Minor Conditions	1,008

Dr. Payton writes :

"The daily glass of milk and dose of Cod Liver Oil is of great value, but great benefit would be derived from the provision of daily dinners of a kind suitable for these small children. The free meals provided for older children are hardly of a suitable kind, and as a result some of the children who should be having free meals do not take them. 18 children were underweight, but 10 of these have gained weight satisfactorily. One of these has dinner at a neighbouring Infant Welfare Centre."

Summer Lane.

Accommodation, 74. Average Attendance, 70.5.

Dr. Payton reports :

"The general health on the whole has been satisfactory. Only 9 children failed to gain weight satisfactorily. There were 21 cases of measles and 5 of whooping cough. Three were sent to convalescent homes following illness and two were sent to Canwell Hall Hospital."

Tonsil and Adenoids Operation	2
Mastoid Operation	1
Ultra-Violet Light	2
Remedial Exercises	2

All children who have required dental treatment have received it at the clinic. The Nurse reports that she has carried out 850 dressings for minor conditions.

The social conditions of the neighbourhood, and the long waiting list attest to the value of the Nursery School for this part of the City. The confined courtyards and the heavy traffic of the streets leave no space in which the children may play in safety, and the parents look to the Nursery School as a real place of safety. Hence there is a very long waiting list of applicants. At the end of the year less than half the fathers of the children were at work, and eleven of the children had lost one parent.

Tiverton Road Nursery School.

Accommodation, 60. Average attendance, 49.

Dr. Alexander reports that there has been no epidemic disease, a few sporadic cases of measles and chickenpox only. The general gain in weight has been steadily maintained. Two children were operated upon for tonsils and adenoids, one for mastoid infection and one for hernia. All children who require it have received dental treatment. It is felt that the regular allowance of two-thirds of a pint of milk daily and the sun-suits for the summer have been of great benefit and appear to have helped to build up a resistance to infections. The children live largely in the open air and there has been a notable reduction in the catarrhal and bronchitic troubles. The fine summer and autumn have greatly helped to this end. There are many more applications than vacancies and many of the children come from homes where there is distress of one kind or another.

CAMP SCHOOLS.

Another exceptionally fine year has allowed full advantage to be taken of the opportunities afforded by the Camp Schools.

	Stansfeld School. *(Boys').*	*Bell Heath.* *(Boys').*	*Blackwell.* *(Girls').*
No. of weeks open	45	42	46
No. of children sent	600	1,089	1,189
No. of Schools sending children	15	32	37

A total of 2,878 children enjoyed the pleasures of a camp life, more than 300 more than in the previous year. In addition to these several children were sent to a camp school who had shewn mal-adjustment at home or at school, with very good results—indeed one of the greatest needs in the handling of these difficult children is some kind of institution organised on the lines of a camp school.

COTTAGE HOMES AND BOARDED-OUT CHILDREN.

There has been no marked incidence of infectious disease in the Cottage Homes, and the general health of the children has been good. The policy of the boarding-out of the children has continued, and at the end of the year there were 521 children thus maintained. These children are examined by me at least once in the year and a very considerable number twice. This periodic examination, which was formerly carried out under the Boarding-out Orders of the Local Government Board is most valuable, for the children vary in age from 2 years to 16, and therefore but a small number belong to the ages for the routine medical inspection in the schools. Many minor defects and dental decay are discovered in this way which can be readily corrected. It has the additional advantage that it brings the foster-parents into a more direct relationship with those who are responsible for the general supervision of the welfare of the children committed to their charge, a relationship which is much appreciated by them.

The proposed transfer of the management of the Summer Hill Receiving Homes to the Education Committee which will come about on 1st April is likely to facilitate the regular flow of children to the Cottage Homes. Its use as a Remand Home for small children and young girls committed to the care of the Local Authority by the Children's Court under the Children and Young Persons' Act, has proved its advantages. I examined 42 children there committed.

REMAND HOMES.

The provisions of the Children and Young Persons' Act, 1933, as was foreshadowed in the last annual report, have considerably increased the number of those who for one cause or another appear before the Juvenile Court. This is reflected in the considerable increase of boys examined by me at the Remand Home, *i.e.*, 98.

THE UNEMPLOYMENT ACT, 1934.

This new legislation has one important aspect in relation to the School Medical Service, for it will render possible a certain degree of supervision of the health of the young persons after the age of fourteen and thus bridge the gap between leaving school and the age when medical benefit under the National Insurance Scheme is obtainable. This age-period is in many ways the most critical period of life, characterised by great physiological and psychological changes, during which hitherto latent physical and mental defects may shew themselves, with a failure to attain the stability which is essential for a normal adult life. Medical supervision therefore of the young persons between these ages is of paramount importance, if for no other reason than to render the medical inspection in the elementary schools more fruitful, for at the present time the lack of continued supervision renders some of the efforts towards securing a healthy adult life of little avail. This is, perhaps, most readily seen in connection with the provision of dental treatment at the clinics. If a child whose teeth have been carefully treated while attending school has no inducement or facilities for continued supervision he soon ceases to take an interest in the condition of his teeth and dental decay may rapidly spread. The result is that if and when he is in a position to obtain dental benefit, this most generally must take the form of extensive extractions and the provision of an artificial denture.

Though no systematic medical or dental inspection is at present contemplated, the opportunities afforded by the Junior Instruction Centres have great future potentialities. In the meanwhile, the advice of the School Medical Department and the clinic services are available at the request of the Superintendent, for any young persons attending these centres.

VERMINOUS CHILDREN.

The attack upon conditions of uncleanliness and louse-infestation has been carried on with vigour, and although the figures are more favourable than in any previous year, the fact that 14,605 children were found to shew evidence of the presence of this parasite cannot be viewed with complacency. The average number of visits paid to the schools by the Nurses was 11.7, and the total number of examinations made was 479,839. In this number of examinations there were found 56,790 instances of uncleanliness. It is therefore apparent that if these "instances of uncleanliness" are divided by the number of children found unclean during the year, the average number of times in which the same child was found verminous was 3.89. This average, however, is misleading for a very considerable number of the children are the victims of transferred infestation from a much smaller number of constantly verminous children. There is indeed some satisfaction to be derived from the fact that each year has seen a progressive diminution in the percentage of children found to be infested.

	No. of Examinations.	*Instances of Infestation.*	*Per cent.*
1931	314,000	53,700	17.1
1932	380,000	63,000	16.5
1933	447,000	61,009	13.6
1934	479,839	56,700	11.9

Most of the parents are distressed at the discovery made by the Nurse and at once take steps to get rid of the trouble, and the number of persistently verminous children is comparatively small. It is, however, sufficient to endanger the cleanliness of the other children in the schools, and too often there is indifference and neglect on the part of the parents of this group of children. In spite of the fact that facilities for cleansing their children are at the service of the parents at the clinics, only 215 availed themselves of the opportunity. Legal proceedings were taken under the School Attendance Bye-Laws in 89 cases.

RINGWORM AND SCABIES.

The incidence of Ringworm, after remaining stationary for some years past, has shewn a very considerable further reduction, for only 72 cases of Ringworm of the head were discovered, compared with 118 in 1933. Of these 62 received X-ray treatment, the remainder being treated elsewhere. In addition 15 children were treated by X-rays for outside authorities.

It is unfortunate that Scabies has not shewn the same reduction, but has remained at the same level as that of the last three years. 584 cases were reported, as compared with 509 and 514 in 1933 and 1932 respectively. Of these no less than 498 were treated at one or other of the four special centres. (Aston Clinic, Floodgate Street, Gt. Charles Street, and Sheep Street Clinic). Close co-operation is maintained with the Health Department in this matter, and in many cases the homes are visited by a Health Visitor.

CHILD GUIDANCE CLINIC.

Dr. C. L. Burns, Director of the Child Guidance Clinic, reports:

"The Child Guidance Clinic has now been established nearly three years and a report for the first two years has recently been issued, from which the following abstractions and tables are taken.

(1). *Delinquency.* A highly important part of the work lies in the study and treatment of cases referred from the Children's Court, in the majority of cases for stealing, when it is considered by the Magistrates or Probation Officers that the case is a particularly complex one, and there appears to be a neurosis or serious maladjustment at the back of the delinquency, which requires detailed investigation from many angles. Perhaps more important still is the treatment of budding delinquents before they come within reach of the Law, and before the habit becomes fixed. An interesting comparison between the two classes, with results of treament will be found in the table below. It is not claimed of course that all cases require Child Guidance; many of them arise out of boyish exuberance and love of adventure, others from the "gang-spirit," others again from sheer deprivation of worldly goods; there are cases, however, of presistent or unmotived stealing, dating perhaps from early childhood, where deeper unconscious motives are at work and have to be unravelled. Among these, where emotional stresses are predominant, the high proportion who come from "broken homes" is noteworthy, as was clearly shown in an investigation of 200 probation cases by Dr. Auden in 1931*

Delinquency.

	Referred by:	
	Juvenile Court.	*Schools, Doctors,* etc.
Numbers referred	32	76
Diagnostic purposes only	6	0
Numbers treated	26	76
Numbers improved	11	49
No improvement	9	5
Still under treatment	6	22
Average age	11½ years	9 years

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* Annual Report, 1931. pp. 25 to 28. Also *Brit. Journ. Educational Psychology,* Vol. iii., November 1931.

(2). *Education and Intelligence.*

The Psychologist—Miss Dove—reports as follows:

"The work of the psychologist consists largely in the giving of Intelligence Tests, and in the two years since the Clinic opened, 240 children have been tested. From the point of view of diagnosis as well as of treatment it is important to know as much as possible about the child's mental "make-up" and for this purpose two Scales of Intelligence Tests are used—the Burt Revision of the Binet Simon Tests, and Drever and Collins' Scale of Performance Tests. Thus a fairly just estimate of the child's intelligence can be formed and it is possible to select those cases which are likely to benefit from treatment at the Clinic. Of the 240 children tested 14 per cent. proved to be below the normal level of intelligence. Table 2 shows the distribution of Intelligence Quotients for 180 of the accepted children. It will be seen that a large proportion of these come into the "dull and backward" group. It is probable, however, that in the case of some neurotic children the results are lower than they should be and it will be interesting to see the results of a re-test in two or three years.

Since the Intelligence Tests are given to each child separately, and the time required for the giving of the two scales amounts to approximately 1½ hours, there is opportunity for detailed observation of the child. The method of approach to the Tests and the attitude towards difficulty encountered are sometimes even more significant than the actual success or failure. Signs of instability and definite character traits often appear in the doing of Performance Tests, especially when the child is given something to do and more or less left to find his own method of doing it.

Standardised Educational Tests in Reading and Arithmetic are also given to each child, with a view to finding out how he stands with regard to school work and how far his educational achievements are on the level which might be expected from his Intelligence Quotient. The aim is not only to find out the degree of backwardness that may exist but also to find the reason for this and if possible to find a means of overcoming the difficulty. Special coaching at school, or even simple encouragement and practice, when want of confidence is a predominant factor, often works wonders. In this connection it is interesting to note that in 58 of the 180 cases tested the Reading Age was definitely below the Mental Age as determined by Binet Simon Tests.

Each child is interviewed at least once, and in many cases twice, for the purpose of testing, but in some cases much fuller investigation is desirable and frequent interviews may be necessary.

Close co-operation between School and Clinic is essential, since school plays a large part in a child's life and much of his time is spent there. Part of the psychologist's work, therefore, is to maintain close contact between school and clinic by means of visits to the schools, when the child's problem is discussed with the Head Teacher and Class Teacher, and suggestions as to treatment may be made."

TABLE 2.

Distribution of I.Q.'s for Accepted Cases.

Total number tested	180
Not tested	32
Total	212

I.Q.	
I.Q. below 50	1
,, 50 — 55	1
,, 56 — 60	4
,, 61 — 65	5
,, 66 — 70	7
,, 71 — 75	15
,, 76 — 80	15
,, 81 — 85	28
,, 86 — 90	25
,, 91 — 95	24
,, 96 — 100	29
,, 101 — 105	16
,, 106 — 110	5
,, 111 — 115	1
,, 116 — 120	2
,, 121 — 125	2
Total	180

Range of I.Q.'s	47 to 122
Average I.Q.	86
Median I.Q.	88

Summary of Preceding Table.

I.Q. 70 and below	18 or 10%
I.Q. 71—90	83 or 46%
I.Q. 91—110	74 or 41%
I.Q. 111—125	5 or 3%

That is to say that of the 212 cases treated, 10% fall into the probably mentally defective group, 46% into the " dull and backward " group, 41% are normal and 3% super-normal in intelligence.

Of the total 240 children tested 33 had I.Q. 70 or below, i.e., 14% came into the probably Mentally Defective group, and were thus unsuitable for treatment at the Clinic.

(3). *The Social and Economic Aspect.*

The Social Worker—Miss V. Lilwall—reports :

"The Social Worker's duty is to visit the homes of those cases accepted for treatment, and produce for the Psychiatrist as lucid a picture as possible, of the material and psychological environments and the family histories. The investigations can in no way be hurried, and some homes may have to be visited several times before a complete "picture" is obtained. These visits must not appear official, and no recording of facts is made in front of the family—on the surface the Social Worker visits for a friendly chat about the patient. At a later stage adjustment at home can be helped by the Social Worker who, as the friend and confidant of the family, and as an experienced observer, can help them in their handling of the child, while at the same time providing the necessary authority to see that the advice and instructions of the psychiatrist are carried out.

The Social Worker is also present at the Clinic Sessions, and observations made at the play group are of great help in her work in the homes.

Quite often it will be found that a child is lonely, or has not enough to interest him at home, even in a large family, and is just longing to 'do things' with others of his own age, outside the family. In some cases the child broods over this problem, and develops nervous symptoms, while in others, the child breaks loose from the home and joins up with a gang, which may lead to delinquency, or he becomes a truant in search of adventure. To the Social Worker falls the duty of discovering and arranging the right kind of social activities, Scouts, Guides, Clubs, etc., for these cases.

It will be noticed from Table 3 that most of the cases *accepted* for treatment come from 'good working class' families, where the father is a skilled worker, in regular employment, the home economic conditions are fairly stable, and both parents have time and energy to devote to their children and are willing to co-operate with the Clinic and its methods. The next largest group comes from 'poor working class' families, where the father is a seasonal worker, or in and out of work; quite often the mother is called upon to supplement the father's wages, the children if old enough are left to fend for themselves, or else passed on to neighbours or relatives during the day, which may in itself create a further problem; and the lack of consistent co-operation from such parents makes treatment lengthy.

In treating cases from 'slum' and 'poor slum' areas where the material conditions are bad, the father out of work, or as in 'poor slum' areas the families are practically destitute, it has been necessary to enlist the co-operation of various social agencies for relief, convalescent treatment, etc., before attempting any lengthy psychological treatment.

It has been found that children from New Housing Estates are those mostly in need of organised social activities, while those from institutions are wanting the comfort of the small family unit.

It will be seen from Table 4 that a large proportion of the children come from 'broken homes' where the incomplete or 'patched up' parental situation has proved to be too unsettling for the child, and is the main causative factor in his problem."

TABLE 3.

Economic Status.

Poor Slum	14
Slum	40
Poor Working Class	46
Good Working Class	75
New Housing Estate	16
Suburban	15
Institution	6
Total	212

TABLE 4.

Parental Factor.

Both own parents	113
Step-mother	43
Step-father	8
Mother only	32
Father only	2
Illegitimate	5
Foster parents	3
Institution	6
Total from " Broken Homes "	99

NOTE.—It must be observed that an " average sample " of 212 normal children would show a far smaller proportion from " Broken Homes."

(4). *Treatment.*

It is impossible to describe shortly the lines of treatment, but in general it may be divided into two main portions; one is the guidance of parents and attempts to alter the environment, the other the treatment of the child himself. The manipulation of the environment is largely in the hands of the social worker and is referred to in another section. The Director also interviews the parents at intervals, to suggest and encourage, rather than to enforce the ways which parents should follow. The children are encouraged to talk, explanations of conduct are given in a manner suitable to the child, but above all it is attempted to restore confidence in their ability to follow the paths of normality and useful achievement. Mention may also be made here of the investigation into educational difficulties where these are themselves causes or effects of anxiety in the child's mind.

Much use is made of the playroom because it has been found by experience that the free use of play-material (paints, plasticine, sand, water, etc.) is in itself a valuable method of diagnosis and treatment. The child reveals many of his characteristics in this sphere, uses the material as an outlet for his emotions as well as his creative powers, and often furnishes by this means a symbolic presentation of his conflicts. In addition there is a weekly class for informal gymnastics and rhythmic movement, which is found to be of great value.

(5). *Results.*

It is natural that in discussing a method of treatment which is more or less new, the results should be, perhaps, the chief point of interest. Now it is difficult enough in the art and science of medicine to know when a result may be claimed as a cure, and it is all the more so when the condition is a complex one of behaviour and personality. It can only be roughly stated what degree of improvement or, preferably "adjustment," relative to the condition at the outset of treatment, has occurred within the period of attendance at the Clinic; without claiming that it is necessarily a result of the treatment given. Such conclusions are given in Table 5. Cases are followed up for as long as possible, and time will show the degree of permanence of these adjustments and therefore the value of the work.

TABLE 5.

Results of 212 *Full Cases.*

Adjusted	110
Partially adjusted	31
Unadjusted	16
Relapsed after discharge	3
Still attending	52
Total	212

Finally a Table is given showing the total number of boys and girls respectively referred and treated during two years.

TABLE 6.

Numbers referred and numbers admitted for treatment in separate years.

	Referred.			*Treated.*			*Carried over from previous year.*			*Total No. treated each year.*
	Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	*Total*	
Year 1932	114	68	182	60	43	103	—	—	—	103
Year 1933	115	56	171	77	32	109	11	9	20	129
Total	.....	.....	353	.....	.....	212				

Research.

PSYCHOLOGICAL METHODS IN VOCATIONAL GUIDANCE.

Reference was made in my last report to the investigations which are being carried out by the Juvenile Employment and Welfare Department in which the Medical Department is collaborating.

In 1932 a Report was issued on an experiment carried out in three schools of this City. Half the number of children leaving these schools were given a special psychological examination as to their innate abilities and formed the "tested" group. The other half were given no such examination and formed the "control" group. The "tested" children were also given a very detailed medical examination by Dr Marion Burt who was at that time one of the Assistant School Medical Officers, whose results are published in Section VII of the above-mentioned Report. Her results are referred to in detail in my report for 1933.

Vocational guidance was then given to all these children. That given to the "tested" group was based on information elicited by the psychological methods and the special medical examination; that given to the control children was based on the method extant in Birmingham and included the usual school medical report but no psychological methods.

The question then arose as to how far the special medical examination played a part in the results obtained. To acquire data on this problem the investigation has been extended by the Juvenile Employment and Welfare Department at the behest of the Education Committee, and two Assistant School Medical Officers—Dr. Payton and Dr. Mitchell—are collaborating by giving this intensive and detailed medical examination to *all* children leaving three schools in the City irrespective of whether they belong to a "tested" or "control" group. A fourth school will shortly be included. The results of the medical examination are being used when giving guidance to children comprising both groups. The "special medical examination factor" is therefore constant for both groups and it will be possible eventually to discover what part it plays in vocational guidance, and to eliminate its influence from that of the psychological methods.

It must be remembered that the experiments are being carried out solely to investigate the value of psychological tests and methods as aids to vocational guidance. The medical examination is therefore mainly directed to this end and the Medical Officers indicate specifically any contra-indications regarding subsequent employment which may emerge as a result of the examination. They are, however, taking this opportunity of collecting data relating to various other aspects which should be of great interest and value from the more strictly medical standpoint.

TUBERCULOSIS.

Dr. Dixon, Chief Tuberculosis Officer reports:

"During the year 1934, the number of children dealt with at Yardley Green Road Sanatorium was 222. Of these 123 were males and 99 were females.

Out of the 222 there were 119 who were admitted primarily for observation, 75 of which were discharged with no definite signs of Tuberculosis, and 44 remained for treatment.

Of the 147 who received treatment, 83 were in Group I, 31 in Group II, 4 were in Group III, and 29 were in Group IV, *i.e.*, 29 were non-pulmonary cases. The non-pulmonary cases consisted of tuberculosis of the bones and joints, abdominal tuberculosis, peripheral glands, etc., and the majority of these children were treated in the artificial light clinic with excellent results."

Classification of Groups.

Group I.—Cases with slight constitutional disturbance, if any; *e.g.*, there should not be marked acceleration of pulse nor elevation of temperature except of very transient duration; gastro-intestinal disturbance or emaciation, if present, should not be excessive.

The obvious physical signs should be of very limited extent as follows: either present in one lobe only, and, in the case of an apical lesion of one upper lobe, not extending below the second rib in front or not exceeding an equivalent area in any one lobe; or where these physical signs are present in more than one lobe, they should be limited to the apices of the upper lobes, and should not extend below the clavicle and the spine of the scapula. No complication (tuberculous or other) of prognostic gravity should be present. A small area of dry pleurisy should not exclude a case from this Group.

Group III.—Cases with profound systemic disturbance or constitutional deterioration, with marked impairment of function, either local or general, and with little or no prospect of recovery. All cases with grave complications (*e.g.*, diabetes, tuberculosis of intestine, etc.), whether those complications are tuberculous or not, should be classified in this Group.

Group II.—All cases which cannot be placed in Groups I and III.
include :—

Group IV.—Patients suffering from non-pulmonary tuberculosis

(1) Tuberculosis of bones and joints.
(2) Abdominal tuberculosis (*i.e.*, tuberculosis of peritoneum, intestines or mesenteric glands).
(3) Tuberculosis of other organs.
(4) Tuberculosis of peripheral glands.

The names of all children who are found to present signs of active tuberculosis are reported to the Medical Department, as also are the names of all children on discharge from the Sanatorium. These are then kept under continued observation at the clinics or if unable to attend school, are entered on a special register.

TUBERCULOSIS. (NOTIFICATIONS).
(ALL FORMS). 1934.

AGES.	RESPIRATORY SYSTEM.		NERVOUS SYSTEM.		INTESTINES AND PERITONEUM.		OTHER FORMS.	
	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths
0	4	4	1	—	–	–	3	3
1	10	–	4	5	1	–	4	3
2+	31	3	12	11	3	1	25	4
5–14	99	8	5	6	10	3	35	6
Totals	144	15	22	22	14	4	67	16

DIPHTHERIA IMMUNISATION.

Throughout England, especially in the larger cities, during the past year there has been a marked prevalence of a severe form of diphtheria with a considerable mortality rate. This increased gravity of infection is shewn in the large increase in the number of deaths from Diphtheria in the City (84). Fortunately the very considerable number of children who have already been immunised allows us to meet the situation with confidence; some 70,000 children are now protected, and no death has occurred in the children who have been immunised. Forty-six deaths have occurred amongst non-immunised school children.

This is the more note-worthy, as before active immunisation was begun, the type of Diphtheria prevalent in the City was virulent with a high incidence of mortality. For example, during the winter of 1925-26, eleven deaths occurred amongst the children in one small school, and seven in another school. The first inoculations in any Elementary School in Birmingham were given in the Autumn of 1927 in a small school in which there had been a number of cases, including two of the staff, with several deaths. In 1930 the Board of Education agreed to allow the inoculation of children whose parents wished it, to be regarded as a part of the routine scheme of school medical supervision, and to be carried out on school premises and during school hours. The expenditure incurred was not to be eligible for grant purposes from the Board of Education. The Education Committee approved of the arrangement, and in this way the majority of schools have been visited twice by a medical officer of the Health Department. A review of the situation in Birmingham has recently been given in the *Lancet* in a joint paper by Dr. M. Burn (Deputy Medical Officer of Health) and Dr. V. Fellowes (Assistant Medical Officer for Immunisation). The accompanying tables and figures are taken from this paper.* The table gives the number of cases and of deaths during the past 14 years, while the diagram shews the case-rate in the pre-school child and the fall which has marked the period during which immunisation has been available at the Infant Welfare Centres.

Cases of Diphtheria (C) and Deaths (D) in Age-groups from 1920 *to* 1933.

Year.	0—5 *years.*		5—10 *years.*		10—15 *years.*		15—20 *years.*		Over 20 *years.*	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
1920	389	99	710	79	310	16	131	2	215	5
1921	339	54	633	53	331	11	116	0	233	2
1922	327	33	479	43	232	6	93	1	154	6
1923	402	68	526	42	288	18	125	5	196	6
1924	505	48	623	40	343	11	174	1	242	0
1925	548	54	617	32	366	7	131	0	234	2
1926	464	47	677	52	274	12	141	1	248	4
1927	376	20	561	30	237	7	107	0	262	4
1928	346	26	640	32	257	6	110	1	199	5
1929	402	36	699	34	229	7	116	5	165	4
1930	423	38	660	29	294	6	101	1	223	14
1931	329	22	430	27	179	9	86	1	147	3
1932	179	15	219	15	87	2	47	1	88	2
1933	110	14	145	12	84	3	30	2	48	2
1934	303	33	415	38	158	8	50	2	108	3

The following is the method of procedure :—

Each school is visited by the health visitor about a month before the work is to be carried out. She explains the procedure, notes the number of leaflets needed, and fixes a date for the first visit. Leaflets giving the reasons for the work and explaining the simplicity of the procedure, with a space for signature, are distributed to the children, and record cards with a space for the name, age, and address are made out at the schools—the older children writing their own. Three visits are made at fortnightly intervals for the inoculations, and a fourth visit is paid in order that children who have been absent shall have another opportunity of continuing the treatment. After the first inoculation the health visitor visits and investigates any complaints. It will now be possible to revisit all the junior and infant schools at intervals of about 18 months.

In addition, there is a weekly clinic at the Public Health Department and from time to time immunisation clinics are held in each of the 30 Infant Welfare Centres.

Toxoid-antitoxin mixture is used in 1 cubic centimeter doses at fortnightly intervals on three occasions.

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* *Lancet,* November 24th, 1934, p. 1181. For permission to use the blocks and extracts we are indebted to the Editors of the *Lancet.*

As to the efficacy of the treatment, the accompanying diagrams speak for themselves.

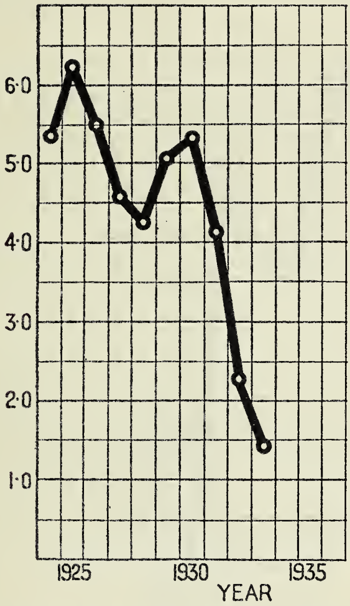

Diagram shewing the reduction in the number of children under five years of age who have suffered from Diphtheria per thousand of the population during the years 1924—1933.

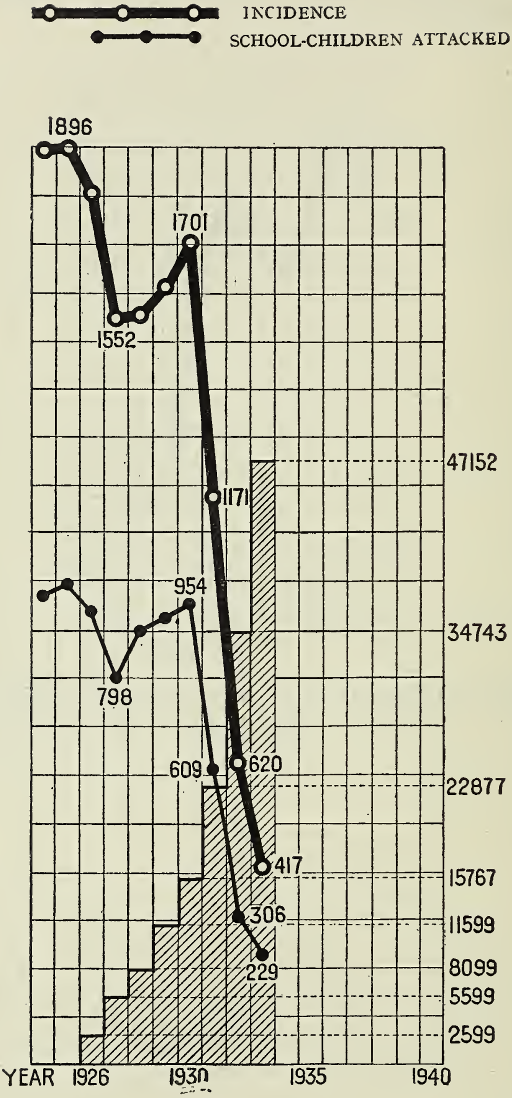

Diagram shewing the total incidence of Diphtheria in the City (thick line) and the incidence amongst children of school age (thin line). The hachured squares represent the number of children who have been immunised.

Out of the total number of children immunised since 1925, there have only been 22 cases of clinical Diphtheria in children who have received the three injections more than 6 months previously, as is seen in the accompanying table.

Since 1925 there have been 10,000 cases of Diphtheria in non-immunised children from 0 to 15 years of age with 580 deaths, and during the same period 22 cases of Diphtheria in immunised children with no deaths. The significance of these facts cannot be gainsaid.

Cases of Diphtheria in Immunised Children.

Year of attack.	*Time elapsed since immun.*	*Age at time of immun.*	*Confirmatory Schick reaction.*
1925	—	—	—
1926	—	—	—
1927	6 months	5 years	—
1928	9 ,,	—	—
1929	1½ years	4 years	—
1930	3½ ,,	9 months	Negative, Nov., 1929. Positive, at time of attack.
1931	7 months	5 years	—
	8 ,,	13 ,,	—
	9 ,,	11 ,,	—
	7 ,,	7 ,,	—
1932	8 ,,	8 ,,	—
	7 ,,	7 ,,	—
	2 years	10 ,,	—
1933	2½ ,,	8 ,,	—
	1 year	4 ,,	—
	6 years	4 ,,	Negative, nine months after inoculation.
1934	8 cases.		

The number of reactions is extremely small, the rate for 1931 being 1·7 per cent. These showed redness or stiffness at the site of injection, which lasted from 12 to 36 hours, with usually little or no constitutional disturbance. For 1932-33 this reaction-rate had been further reduced to 0.7 per cent., *i.e.*, in reference to 1932, 84 children developed a reaction out of a total of 12,000 children immunised. This reduction is probably due to the fact that the younger children are now predominating.

It is sad, but true, that in England we have lagged behind other countries in the use of this simple measure to safeguard the lives of the younger members of the community, and that in consequence there is still a heavy toll of deaths which might have been prevented. But in this Birmingham has led the way, and the saving in sorrow and anxiety is beyond counting. So far as the material saving to the City is concerned, Drs. Burn and Fellowes report:

> "The *total* costs for the immunisation of 13,000 children in 1933 was £1,562. This figure is an inclusive one, and embraces all money spent on the scheme, such as salaries, material, furniture, and stationery. Readers themselves can assess the value of the work in terms of saving of life, health, disturbance of families on diphtheria occurring in the household. In actual terms of money

there can be set off against the expenditure of £1,562 the saving to the city in the great reduction in the number of cases which have occurred since immunisation had reached a point allowing it to have an effect upon the incidence. An average cost to the city for the treatment of one diphtheria case is approximately £25, which indicates a saving of £21,575. The cost of antitoxin for the treatment of diphtheria at the hospital shows a corresponding decrease:

1929	£1659	1932	£623
1930	2046	1933	578
1931	1380		

Apart from this saving of approximately £22,000 for the year 1933, an important effect has been the release of wards, which would otherwise have accommodated diphtheria cases, for the treatment of measles, whooping-cough, etc. Previous to 1931, it had not been found possible to accommodate in any degree these latter cases in the fever hospital owing to the lack of beds."

ULTRA-VIOLET LIGHT TREATMENT.

From the beginning of June it was found possible to allot the services of an extra nurse to help in the ultra-violet light treatment in the various clinics. This has allowed a considerable increase in the total number treated, 1,581. This is highly satisfactory, for ten years' experience in the use of this form of treatment for certain forms of illness which do not yield readily to other measures, has fully confirmed our early impressions of the great improvement which is often obtained. In the treatment of these various morbid conditions which are amenable to ultra-violet radiation, it is not possible to describe them as cured and it is, therefore, safer to group those where a full cure has been obtained with those where much improvement is clear and definite. That 49.5 per cent. of all the cases treated by this method fall into the category of "much improved" and 34·8 per cent are reported as " improved" gives evidence of the real value of the treatment.

The table gives an analysis of the types of defect for which the radiation has been given, and the results.

	Number Treated.	*Cured or much Improved.*	*Improved.*	*No better, or still under Treatment.*
Debility	779	347	291	142
Rheumatism	97	43	37	17
Chorea	12	7	3	2
Bronchitis and Asthma	366	187	132	47
Nasal Catarrh, etc. ...	30	11	15	4
Enlarged Glands ...	35	13	17	5
Otorrhoea and Deafness	12	5	5	1
Blepharitis and Conjunctivitis ...	11	5	4	2
Vomiting	42	18	10	14
Chilblains	23	12	10	1
Alopecia	44	27	13	4
Impetigo	71	66	4	1
Other Skin Trouble ...	59	40	9	9
Total ...	1581	782	550	249

Dr. Wilkins in analysing the figures at Sheep Street makes the following comments :

"Radiation continues to prove a most valuable tonic treatment in debility and anaemia. Especially in nervous types of debility the results are remarkably similar to those obtained by the administration of concentrates of the "B" group of Vitamins. This of course points to the fundamental importance of a properly balanced diet and there is every reason to assume that Ultra-Violet Ray acts primarily on the metabolic and nutritional mechanisms of the body.

Few cases of rheumatism fail to benefit considerably. I believe that no case of rheumatism should be left without at least a trial of Ultra-Violet Ray, but it is noteworthy that at Haseley Hall, where cases of rheumatism have been treated and kept under observation for a number of years by certain members of the School Medical Staff, there appears to be little need for Ultra-Violet Ray, presumably because the nutritional requirements of the body are well supplied. Rheumatism may, perhaps, be considered in this sense as primarily a deficiency disease.

In selected cases of Chorea, the results continue to be satisfactory.

The improvement in treatment of Bronchitis and Asthma is often remarkable, and benefit often lasts for long periods after discontinuance of radiation.

As an adjuvant in otorrhoea and catarrhal deafness, Ultra-Violet Ray is valuable, but, of course, it cannot be expected to cure troubles due to more deeply seated causes which require local and possibly surgical treatment.

Benefit in Blepharitis and recurrent or continued Conjunctivitis is generally striking.

An interesting group of cases of recurrent vomiting continue to give good results though all apparently do not benefit. An experiment was made in the radiation of a small group of cases of frequently recurring abdominal pains, and in two out of the three there was considerable improvement. Vitamin "B" concentrate produces similar benefit and in this respect the so-called bilious attack resembles debility in its similar response to Ultra-Violet Ray and to vitamin "B." I am convinced that most at least of the recurrent bilious and colic attacks of children are simple deficiency ailments.

Chilblains, impetigo, and probably alopecia areata, are fundamentally due to nutritional deficiencies and seldom fail to clear up under Ultra-Violet Ray."

PHYSICAL EDUCATION.

Mr. MacCuaig and Miss Thorpe, Organising Inspectors of Physical Training, report that important developments in physical education have taken place in the last three to four years. Gymnastic schemes for Senior Schools, and the Board of Education Syllabus (1933) for Infant and Junior Departments have been introduced, the physical training syllabus for Junior Evening Institutes has been revised, and an experimental scheme of physical training has been introduced into the schools for mentally defective children.

Since September, 1931, three thousand three hundred enrolments of teachers have been made for 78 day and evening courses of different types. These include participation by class members in practical physical training lessons, lectures and discussions on theory of movement and teaching methods, teaching practice with class members and demonstration lessons by classes of children from different schools under their class teachers. Courses of lecture-demonstrations are also held for those Head and class teachers who, due to age or physical unfitness, are unable to join a practical course. At these courses two or three physical training lessons are given each session, the classes attending from different schools for demonstration. Through these various courses the staff of every elementary school has had opportunity for guidance in the application of new schemes of physical education.

School Playing Fields.

The Table shews the number and acreage of the playing fields, owned, rented and loaned. In addition to these use is made of about 24 acres of private and public grounds which are attended by a further 10,000 school children making a total of 61,000 children playing games *on grass.*

	Number.	*Total Acreage*	*Average Acreage.*	*Weekly Attendance.*
Elementary and Special	28	260	9.3	45,000
Secondary	13	112	8.6	5,888
Total	41	372		50,888

This development in the use of the field is largely the result of the further training courses provided specially for teachers in charge of classes at the playing fields. An interesting sidelight on these activities is thrown by the fact that 2,447 miles are covered every week by the special tramcars or buses chartered for the conveyance of the children attending elementary schools.

The general layout of the playing fields is planned to seek the maximum use of the acreage with a minimum of dead ground*.

There are three open-air pavilion-classrooms on three of the Elementary School fields which are used from April to October by a total of about 60 classes weekly.

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* See Plan, Annual Report, 1931, p. 22.

Senior School Gynastic Scheme.

The re-organisation of physical training for children, 11-14 years of age has co-incided with the re-organisation of schools on lines laid down in the Hadow report. A type of gymnastic training, new to elementary schools, has been introduced to senior schools. The gradual development of this scheme has been indicated in these reports during the last three years. Although a few departments not yet re-organised, are still unable to use the new scheme, the majority of re-organised senior schools and a number of unre-organised schools are providing this advanced form of physical education. In all, 95 school departments have been equipped with gymnastic apparatus for this new type of physical training, and between 35,000 and 40,000 children are receiving it.

Swimming Instruction.

The City possesses 16 covered swimming baths all of which are used by scholars during school hours. Seven of these are kept open during the winter and are used by the schools in their neighbourhood.

This number of swimming baths is inadequate for the needs of the schools, particularly as their distribution has not been made with reference to school requirements. Many departments, therefore, can only obtain one or two periods weekly.

The class teacher is responsible for the swimming instruction in all Elementary Schools except in a few Voluntary Mixed Schools which have no male teacher on the staff. A male specialist teacher is employed for part-time duty during the Summer season to undertake the instruction of the boys from these schools. A woman swimming instructor (part-time) is also employed.

Secondary, Commercial, Technical and Art Schools.

Seven of the ten Secondary Schools have playing fields adjoining, and nine Secondary, and the two Commercial Schools, have their own gymnasia, all of them fully equipped with modern apparatus and most of them have changing and shower rooms attached.

There is a fully qualified woman teacher in charge of the physical training at each of the Girls' and Mixed Secondary Schools and the two Commercial Schools, and a fully qualified man teacher at all Boys' and at two out of three Mixed Secondary Schools, while in two large Boys' Schools there is, in addition, a master who has attended a Vacation Course in Physical Training and is taking some of the Junior forms in this subject. The Junior Technical and Art Schools being smaller, have part-time teachers.

Most of the pupils in the Secondary Junior Commercial and Junior Technical Schools have two gymnastic periods of about 45 minutes each and one double period for organised games weekly. Some receive swimming instruction in season in place of one of the gymnastic periods. A few of the Secondary Schools are able to provide special classes for the correction of postural deformities.

Evening Institutes.

A further development has taken place in the number of classes in physical education in the Committee's Evening Institutes. These include Junior and Adult Institutes. The physical education in the Junior Institutes forms part of the group course.

DEATHS IN CHILDREN OF SCHOOL AGE.

A consideration of the causes of death in children of school age is a tragic but necessary adjunct to a report which deals with some of the measures designed to safeguard the health and well-being of the child population. The accompanying table is of great interest in this connection, giving an analysis of the deaths during the past seventeen years.

DEATHS OF CHILDREN AGED 5-15.

CAUSES OF DEATH CHILDREN 5-15	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Measles	8	24	19	11	5	13	5	9	2	8	3	16	6	22	3	6	5
Scarlet Fever	7	24	40	16	11	18	7	7	4	3	1	3	9	4	4	10	3
Whooping Cough	10	3	8	5	7	0	2	4	8	2	4	7	6	4	7	2	2
Diphtheria	87	63	95	64	49	60	51	39	64	37	38	41	34	36	17	15	46
Influenza	223	42	25	2	6	6	8	10	2	9	4	14	2	2	4	6	4
Pulmonary Tuberculosis.....	52	31	26	25	22	24	17	23	16	17	10	18	13	13	16	8	5
Tuberculous Meningitis	20	19	9	15	15	13	12	20	13	18	13	7	11	15	12	14	8
,, Peritonitis & Intestines	9	16	5	6	7	6	3	5	6	9	1	6	2	3	0	1	3
Other Tuberculous Diseases	21	17	17	7	7	12	4	9	5	11	8	4	5	6	10	9	6
Rheumatic Fever	10	9	17	8	14	13	17	22	24	21	17	18	26	18	24	17	35
Cerebro-Spinal Fever.....	4	2	3	0	3	0	0	0	0	1	2	2	2	1	1	1	1
Heart Diseases.....	27	41	30	28	31	24	21	25	27	14	22	22	13	11	9	9	10
Bronchitis	10	11	5	3	4	5	0	4	3	6	1	3	0	0	1	1	1
Pneumonia	91	56	49	46	36	31	25	31	35	34	23	26	16	24	18	19	22
Appendicitis	16	25	20	20	15	13	14	13	11	10	13	10	9	9	7	12	7
Accidents	57	44	43	29	24	32	25	40	43	28	46	58	51	40	43	45	40
All Other Causes	86	99	110	89	80	99	88	79	89	96	78	104	77	66	96	92	91
TOTAL	738	526	521	374	336	369	299	340	352	324	284	359	282	274	272	267	289

CONCLUSION.

In conclusion it is a pleasure to record the great help which is always forthcoming from the Teachers, School Attendance Officers, Juvenile Welfare Workers, Visitors of Boarded-out Children, Private Practitioners, Voluntary Workers and others. It is only by help of this kind that the full value of the work of the School Medical Service is obtained.

SPECIAL SCHOOLS SUB-COMMITTEE, 1933-34.

Councillor Miss Sant (*Chairman*).
Mr. Alderman W. B. Kenrick (*Ex-officio*).
Mr. Alderman T. Quinney, J.P.
Alderman Dr. W. B. Featherstone, J.P.
Councillor Mrs. Fyshe.
Mr. Councillor T. Hackett.
Mr. Councillor W. J. Loxley, J.P.
Councillor Mrs. Salt.
Mr. Councillor J. N. Spalton.
Councillor Mrs. Wills.
Miss E. M. Barling, M.B.E.
Miss J. David.
Mr. E. F. Freeland.
Mrs. Barrow Cadbury, J.P.
Mr. A. Flavell, J.P.

CHIEF EDUCATION OFFICER:

P. D. Innes, M.A., D.Sc.

CLERK TO SUB-COMMITTEE:

H. B. Newsome.

INSPECTOR OF RESIDENTIAL AND SPECIAL SCHOOLS:

Elizabeth L. S. Ross, M.A., B.Ed.

SPECIAL SCHOOLS MEDICAL OFFICER:

Charles L. C. Burns, M.R.C.S., L.R.C.P., D.P.M.

OPHTHALMIC SURGEON:

H. W. Archer Hall, D.O.

ORTHOPAEDIC SURGEON:

F. Wilson Stuart, M.D., Ch.M.

VISITING MEDICAL OFFICERS:

Baskerville School: Fredk. B. Winfield, O.B.E., M.R.C.S., M.R.C.P

Cropwood School: Mitchell I. Dick, M.B., Ch.B.

Consultant Medical Officer, Baskerville School:
W. Carey Smallwood, M.B. M.R.C.P.

SPECIAL SCHOOLS.

ANNUAL REPORT OF THE SPECIAL SCHOOLS MEDICAL OFFICER, CHARLES L. C. BURNS, M.R.C.S., L.R.C.P., D.P.M., FOR THE YEAR ENDED 31st DECEMBER, 1934.

MEDICAL INSPECTION AND TREATMENT.

The Routine Medical Inspections of children in attendance at the Special Schools have been conducted in the past year under similar conditions to those in force during the past few years.

The total number of children examined was 1,321, compared with 1,126 in the previous year. These numbers relate to general medical examinations of the Partially Sighted, Deaf, Mentally-Defective, and Physically Defective children in attendance at Day Schools. They do not include the children seen at the more frequent visits paid to the Baskerville Residential School, and the Day and Residential Open-Air Schools.

Children who needed treatment for minor ailments, defects of vision, tonsil and adenoid operations, were referred in the usual way to the School Clinics, or in exceptional cases to the Hospitals.

DAY SCHOOLS FOR THE MENTALLY-DEFECTIVE.

Reference has been made in my previous reports to the physical condition of children in M.D. schools, because this is undoubtedly a most important aspect of the subject. There is no doubt that these children are definitely physically inferior in every way to those in normal schools; on the other hand it has been shown in some institutions that by very careful attention to nutrition and physical care they can be for the most part brought up to the level of normal children. This may not be possible in day schools, chiefly because the homes from which these children come are of the poorest in the great majority, where all but the bare necessities of life may be wanting. Even free dinners are not sufficient if the rest of the meals consist almost entirely of white bread and margarine, as in some cases one comes across. Nevertheless more could be done and one hopes that more will gradually be done.

The tables below represent figures from a school for senior boys, the number being 100. The cases have been medically examined during the past two years in most cases twice, and are placed in three categories, A. B. and C. in respect of nutrition and general condition : "good, fair, bad," corresponding as regards nutrition alone to the categories described under the new nomenclature as "*normal, slightly sub-normal,* and *bad,*" (none could be described as "excellent") ; the number of defects noted for each group are given to show how specific defects as well as general condition follow the state of nutrition.

Category	A.	B.	C.
Number	21	62	17
Defects.			
Eye	2	4	10
Ear	—	6	3
Naso-pharynx	5	15	11
Glands.....	—	6	3
Heart	—	4	2
Lungs	1	1	4
Postural	—	12	13
Skin	1	4	1
Migraine	—	2	1
Neurosis	—	3	1
Anaemia	—	1	6
Endocrine	—	4	6
Epilepsy	—	5	—
Speech Defects	—	—	2
Total	9	67	63

N.B.—Teeth have not been included as being of poor quality with few exceptions, and in various stages of treatment or neglect.

BASKERVILLE RESIDENTIAL SCHOOL.

The appointment of Dr. Smallwood of the Children's Hospital, Birmingham, as Consultant Medical Officer, and the closer association of the school with the rheumatic clinic of this Hospital under Professor Wilkinson, has led to certain developments in the work of the school. In the first place a much more thorough study of cases both before admission and subsequent to discharge, will be possible, as they will all be examined, and where necessary electro-cardiographs done, at this clinic. Secondly, there is a tendency to admit cases as soon as possible after the onset of the condition, after they have been in hospital and convalescent home, and therefore with less severe heart lesions for the most part. Such cases are considered to offer a better prognosis and therefore greater justification for treatment at a school of this sort, than cases where the heart condition is already well established or stabilised. As a result the average length of stay is tending to be shorter as it is found that earlier cases are sufficiently improved to return to day schools in about nine months.

The severe epidemics of tonsillitis and rheumatic infections which were mentioned in last year's report, have not been repeated to the same extent. When cases have occurred they have been kept in bed, and aspirin administered to them for two or three weeks, and this treatment has very probably minimised the effects on the heart of such infection. The adoption of this very necessary policy has, however, brought up the question of accommodation for the isolation of cases. This is at present inadequate and the matter is under consideration.

HUNTERS HILL RESIDENTIAL O.A. SCHOOL AND
CROPWOOD RESIDENTIAL O.A. SCHOOL.

Below will be found tables showing the main complaints for which children who are at present at these schools have been admitted. It will be noted that the greater proportion are diagnosed as cases of "debility." This is a term used, for want of a better, to describe a condition which denotes a state of poor general health in respect of nutrition, posture, energy, appetite, blood-condition and so forth. If the organism is exposed to bad living conditions, inadequate and sometimes insufficient food, and other detrimental factors in the environment it is to be expected that it will show signs of reacting to this environment not only by a general lowering of height, weight, and energy, but also in specific ways such as enlarged glands, unhealthy naso-pharynx, bad teeth, skin disorders and the like; also by lowered resistance to infection, leading to frequent colds, fevers, and also bronchitis and other lung conditions. There is also, of course, the factor of inherited constitution to be taken into account; likewise a family history of tubercle, etc., as well as the personal history of early "wasting" rickets or digestive disorders. Some cases develop bronchitis, asthma or pneumonia in spite of good environment and adequate nutrition, and the greater number of cases from good homes will be found to be in this category. It is difficult, therefore, to estimate the value of the different factors which together reduce the boy or girl to a condition which renders them suitable subjects for open-air school treatment. A consideration of the average weights and heights on admission for the different age-groups, compared with the normal averages, will, however, indicate that the majority of cases are considerably below the average in these respects, and it seems probable that the chief factors for these cases have been malnutrition and bad environment. This is not strange if we consider the economic status of most of the families from which they come and are familiar with the kind of houses they inhabit.

It would appear, therefore, that a great many cases are treated at such schools mainly to repair the damage wrought by bad economic conditions, and to build up bodies which have been exposed to a long process of attrition by inimical surroundings.

The average length of stay is approaching 18 months. This is probably longer than in other open air schools, but it has been found that a shorter stay does not suffice to procure a really stable and lasting improvement with little liability to relapse. As it is, a certain number do not maintain the improvement made at school, owing to the conditions which they have to face, but in general the results are very gratifying. A sufficient number has not been followed up to be able to give a reliable picture of the late results, and it is hoped to do so in a future report.

Condition.	*Hunters Hill (Boys).*	*Cropwood (Girls).*
" Debility " and Rheumatism	2	5
" Debility " and Anaemia	8	5
" Debility " and Glands	6	2
" Debility " and Neurosis	9	4
" Debility " and T.B. history	8	4
" Debility " as general condition	31	16
	64	36
" Bronchitis "	10	6
" Bronchitis " and " Debility "	5	2
" Bronchitis " and T.B. history	6	4
Fibrosis and Bronchiectasis	8	9
Asthma	12	6
	41	27
TOTALS	105	63

BOYS AT HUNTERS HILL SCHOOL.
Heights and Weights on Admission.

Age Group.	*Weight.*	*Normal Average.*	*Height.*	*Normal Average.*
7—8	3.5	3.7	3.8	3.11
8—9	3.8	3.13	3.11	4.1
9—10	3.12	4.4	4.2	4.3
10—11	4.2	4.11	4.3	4.5
11—12	4.3	5.2	4.3	4.7
12—13	4.7	5.7	4.7	4.9
13—14	5.1	5.12	4.7	4.11

N.B.—The normal averages are, of course, approximate, as no absolute average can be given, and a variation of 10% on either side would be considered normal. The larger disparity with increasing age will be noted.

UFFCULME DAY O.A. SCHOOL.

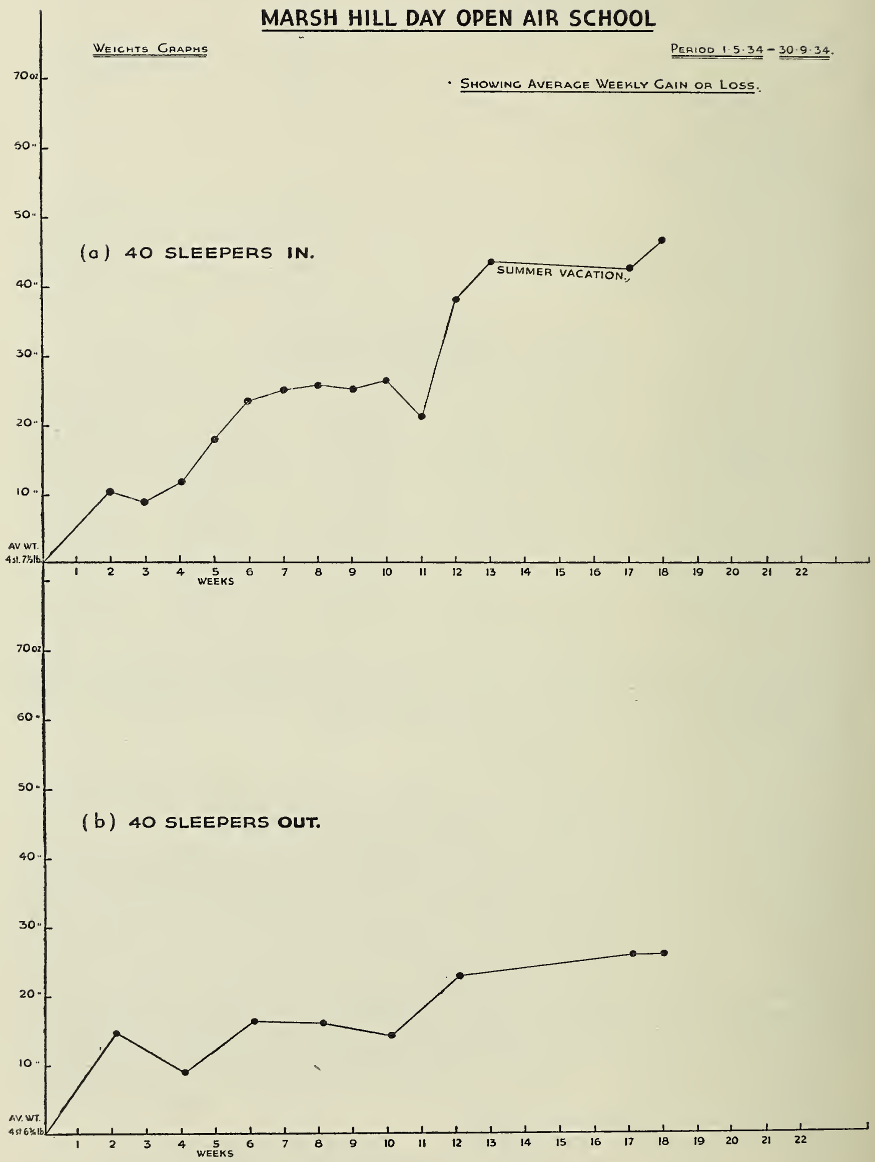
No fresh developments have occurred in this school, which continues to render the same excellent service as do the others.

Out of a total of 103 cases only 30 per cent. are there for "chest" conditions as compared with 40 per cent. at Hunters Hill and 40 per cent. at Cropwood. This is due, of course, to the fact that some cases do better in the excellent air of Blackwell where these schools are situated, especially cases of asthma, and are therefore sent in greater numbers to the residential schools. The remarks previously made as to the greater proportion of "chest" complaints in children in attendance at open-air schools who come from good homes, is borne out by an investigation carried out by the Head Teacher into the homes of children attending Uffculme. It was found that the homes could be placed in three categories : good, fair, poor.

There were 20 good homes with 3 back-to-back houses.
There were 38 fair homes with 13 back-to-back houses.
There were 45 poor homes with 25 back-to-back houses.

The chest cases numbered 31, of which :—

11 were in good homes, roughly 50%.
13 were in fair homes, roughly 30%.
7 were in poor homes, roughly 15%.



MARSH HILL DAY OPEN AIR SCHOOL

Weights Graphs

Period 1·5·34 – 30·9·34.

· Showing Average Weekly Gain or Loss.

(a) 40 SLEEPERS IN.

(b) 40 SLEEPERS OUT.

This does not mean that chest cases are less common in poor homes, but that a greater proportion of cases from poor homes are cases of "debility," also that more chest cases from poor homes are sent to the residential schools. It is probable moreover that the survival rate of chest cases is higher in the better homes.

Forty children slept at Uffculme during the week from Monday to Friday of each week from May 1st to September 30th. This year 20 boys and 20 girls were selected, who were accommodated in separate rest sheds. The experiment of dealing with both boys and girls will not be repeated next year, as it was found that there were many more boys than girls requiring this extra treatment. Cases selected were those suffering from chest conditions, children from poor and overcrowded homes, and a few who lived a long way from the school. The average weight gain for the period was 6 lbs. ; this presented a striking contrast to the average gain of the same children during the four winter months following, which was slightly less than 1 lb. In seven cases the summer gain was reasonably maintained, but none of these had been selected on account of poor home conditions.

MARSH HILL DAY O.A. SCHOOL.

This year it has been possible to arrange for a group of 40 boys to sleep in for the summer months. The accompanying graph shows the striking difference in gain of weight between those who slept at the school and those who slept at home. It is obvious from this that proper sleep in fresh-air conditions is at least as important a factor as proper nutrition. It is probable that length of rest and sleep is again a very important aspect of this factor, and it is a constant struggle with many parents to convince them that early bed is an absolute necessity if their children are to gain benefit. It is possible to tell at sight the child who does not get sufficient rest and sleep, even when there is some prevarication on the part of parent or child as to the time that they do get to bed. In some particularly blatant examples a pronounced anaemia has been noted, apparently as a direct result of insufficient sleep.

SCHOOLS FOR THE PARTIALLY-SIGHTED.

Mr. H. W. Archer Hall, D.O. (Oxon.), has supplied the following report on his work in connection with the three Day Schools for Partially-Sighted children at Edgbaston, Moseley Road and Whitehead Road :—

> "During the year ending December 31st, 1934, I have, as in previous years, visited each of the Council Schools for Partially-Sighted Children at Whitehead Road (Aston), and Moseley Road, on four occasions, and I have inspected the school for more serious cases, at the Blind Institution the same number of times.
>
> One hundred and twenty-three children were selected at these visits for examination at the School Clinic at Great Charles Street, and these were, at a later date, examined to note progress, to prescribe fresh glasses, if necessary, and in order to decide whether transference to some other form of education had become desirable.
>
> In carrying out my work at Gt. Charles Street Clinic with children from sighted schools, I found it necessary to advise Part-sighted education for 27 children.

The number of transferences, etc., is shewn as below:—

	Edgbaston.	*Moseley Road.*	*Whitehead Road.*
No. admitted during year	2	11	12
Total No. who left during the year	9	11	18
No. transferred to ordinary schools	1	5	2
No. who left for work at 14 years or over	4	6	10
No. transferred for technical training at Edgbaston Institution at 16 years.....	3	—	—
No. transferred to M.D. Schools	—	—	2
No. transferred to O.A. School	—	—	1
No. transferred to Approved School under Children and Young Persons' Act	—	—	1
No. who left the City	—	—	1
No. transferred as resident pupils to the Blind Institution	—	—	1
No. who left owing to illness	1	—	—

SUMMER SCHOOL FOR DEFECTIVE CHILDREN.

The Summer School for Special School children was again held at Glan-y-don, Towyn, during the past season. Eight groups of children, numbering in all 192, went into residence, each group remaining for two weeks. The School was in session from May 2nd—October 3rd, apart from a break of six weeks, and scholars were drawn during the summer holiday period from the following Schools:—

(1)	Whitehead Road Moseley Road } Partially-Sighted ...	Boys
(2)	Moseley Road Deaf	Boys
(3)	George Street West P.D.	Girls
(4)	Fashoda Road M.D.	Mixed
(5)	Little Green Lane P.D.	Girls
(6)	Bristol Street M.D.	Girls
(7)	George Street West M.D.	Girls
(8)	Sherbourne Road M.D.	Boys

Mrs. Kember again acted as House-mother, and as usual did everything possible to ensure the comfort and happiness of both staff and children. One of the groups from the Cripples' School was accompanied by two teachers in place of the usual teacher and nurse, and the arrangement worked very well, probably owing to the fact that one of the teachers was well practised in First Aid, and the other was an experienced Guider. The ages of the children ranged mainly between 11 and 16 years, except in the case of the Partially-Sighted, and the Deaf Schools, where the numbers were small, and the Cripple Schools, where the children had to be carefully selected.

Many of the groups of girls were provided with a suitable school uniform, a great advantage in many ways.

No serious case of illness occurred this year, although treatment was necessary in three instances for bronchitis, T.B. glands and ringworm respectively.

The plan of educational work carried out was on much the same lines as in previous years, but this year, efforts were directed towards making a more definite study of the locality, under the headings "Place, Work and Folk," including: *Place*—local geography, with a study of ordnance survey map in connection with excursions; plant and animal life of the district; mountains, rivers, lakes, sea-shore, etc.

Work and Folk.—The Welsh people, something of their history and language; occupations of the people, e.g., slate and granite quarrying, fishing, agriculture, marketing; communications—roads, railways, ships, distances.

It is pleasing to record that the premises known as Glasfryn—Towyn—have now been acquired as a memorial to the late Councillor Miss Clara Martineau, thus bringing to fruition a scheme to provide a permanent seaside Summer School for the use of children attending the Birmingham Special Schools. The house and land have been purchased partly with the aid of a legacy left by the late Councillor Miss Martineau and partly from funds raised privately. With certain minor alterations which are to be effected, the premises will be admirably suited for the purpose for which they are intended. It is anticipated that the first group of children will occupy the new Summer School early in May, 1935.

STATISTICAL INFORMATION.

The usual particulars with regard to the number of children entering or leaving the various types of Special Schools during the year in question are given below:—

DAY SCHOOLS FOR THE MENTALLY DEFECTIVE (Accommodation, 1,213—Boys and Girls).

ADMISSION EXAMINATIONS.

No. of children examined	400
No. certified as mentally defective	267*
No. to remain at Ordinary Schools	86†
No. temporarily excluded from school attendance	5
No. certified as ineducable	34
No. to stay at Private Schools	2
No. to stay at Open Air School	1
No action. Over 14 years of age	3
Decision deferred for examination at Hospital	2

* Includes 5 for " Ascertainment " purposes only. Also includes 2 certified for Residential Schools.

† Of these, 59 were to be seen again later.

PERIODICAL EXAMINATIONS.

Children allowed to leave School in order to take up employment at 14 years of age	21 (*a*)
Children allowed to leave School in order to take up employment between 14 and 15 years	38 (*b*)
Children allowed to leave School in order to take up employment between 15 and 16 years	59 (*c*)
Children leaving School at the age of 16	30 (*d*)
Children excluded from School as unable to derive further educational benefit	61
Child transferred to Day Open-Air School	1
Children to be temporarily excluded from school attendance	5
Children certified for Monyhull Residential Special School	2
Child where decision was deferred for further report from Hospital	1

(*a*) Of these children, 5 were de-certified; and 14 were reported to the Local Authority for Statutory Supervision.

(*b*) Of these children, 5 were de-certified, and 31 were reported to the Local Authority for Statutory supervision.

(*c*) Of these children, 48 were reported to the Local Authority for Statutory Supervision, and 11 had previously been so reported. Of these 59 children 46 left School during the term preceding their sixteenth birthday.

(*d*) Of these children, 11 were reported to the Local Authority for Statutory Supervision, and 19 had been so reported previously.

WAITING LIST.

The following list indicates the number of children who, at December 31st, 1934, had been reported with a view to their admission to the various M.D. Schools but who awaited examination :—

Bristol Street School	21
Burlington Street School	86
Fashoda Road School	3
Gem Street School	71
George Street West School	46
Hamilton Road School	3
Little Green Lane School	72
Ralph Road School	23
Sherbourne Road School	12
	337

DAY SCHOOLS FOR THE PHYSICALLY DEFECTIVE (Accommodation, 220—Boys and Girls).

ADMISSION EXAMINATIONS.

Number of children examined	62
Number certified for admission	49
Number temporarily unfit for school attendance	8
Number deferred for further consideration	1
Number permanently excluded from attendance at any School	4

PERIODICAL EXAMINATIONS.

Children to leave for work between 14 and 16 years of age	18
Children transferred to ordinary schools	11
Children transferred to Day (M.D.) Schools	4
Children excluded as temporarily unfit to attend school	5
Children excluded as ineducable	6
Child transferred to Forelands Recovery School	1
Children permanently excluded	5
Children transferred to Monyhull Residential (M.D.) School	2
Children leaving at 16 years	15*
Number where decision was deferred for further consideration	1
Children transferred to Day Open-Air Schools	4
Children transferred to Residential Open-Air Schools	3
Child transferred to Baskerville Residential School	1

* 1 certified as M.D. for " ascertainment " purposes.

BASKERVILLE RESIDENTIAL SCHOOL FOR THE PHYSICALLY-DEFECTIVE (Accommodation, 90—Boys, 42; Girls, 48).

ADMISSION EXAMINATIONS.

No. of children examined	92
No. certified for admission	74
No. to remain at Ordinary Elementary Schools	13
No. to remain at M.D. School	1
No. to remain at O.A. School	1
No. temporarily unfit for school attendance	1
No. referred for hospital treatment	2

PERIODICAL EXAMINATIONS.

Children fit to leave between the ages of 14 and 16 years	9
Children transferred to Ordinary Schools	56
Children withdrawn by parents	2
Children removed to Hospital	9
Children transferred to Day (O.A.) Schools	4
Children transferred to Day (P.D.) Schools	16
Children transferred to M.D. Schools	7
Child transferred to Woodlands Hospital School	1
Child transferred to Secondary School	1
Children too ill to remain	3

The average length of stay at the School of the children referred to above was eleven months.

OPEN-AIR SCHOOLS.

UFFCULME DAY O.A. SCHOOL (Accommodation, 120—Boys and Girls).

ADMISSION EXAMINATIONS.

No. of children examined	87
No. certified for admission	75
No. to remain at ordinary Elementary Schools	12

PERIODICAL EXAMINATIONS.

Children who improved sufficiently to be transferred to ordinary schools	29
Children who left at 14 years of age, whose physical condition was satisfactory	19
Children transferred to Cropwood Residential Open-Air School	5
Children transferred to Hunters Hill Residential O.A. School	9
Children transferred to Baskerville P.D. School	3
Children who left owing to distance of home from school	5
Children who left owing to parents leaving City	5
Children transferred to Schools for the M.D.	7
Children transferred to Sanatorium for treatment	2
Child transferred to Switzerland for treatment	1
Child transferred to an Approved School under the Children and Young Persons' Act	1

The average length of stay at the School of the Children referred to above was 19 months.

MARSH HILL DAY O.A. SCHOOL (Accommodation, 200—Boys and Girls).

ADMISSION EXAMINATIONS.

No. of children examined	134
No. certified for admission	116
No. to remain at ordinary Elementary Schools	14
No. to remain at M.D. Schools	2
No. referred to Hospitals	2

PERIODICAL EXAMINATIONS.

Children who improved sufficiently to be transferred to ordinary Schools	36
Children who left at 14 years of age or over and whose physical condition was satisfactory	43
Children transferred to Cropwood Residential O.A. School	7
Children transferred to Hunters Hill Residential O.A. School	18
Children transferred to Secondary Schools	2
Children transferred to Schools for the M.D.	9
Children transferred to Baskerville School	5
Child transferred to Haseley Hall School	1
Children transferred to Sanatorium	2
Children who left owing to distance of home from School	3
Children withdrawn by parents	2
Children transferred to Day P.D. Schools	2
Child transferred to Monyhull Residential School	1
Child transferred to Woodlands Hospital School	1
Child transferred to Partially Sighted School	1
Child unable to manage journey	1
Child who died	1
Child whose parents left City	1

The average length of stay at the School of the above-mentioned children was 20 months

CROPWOOD RESIDENTIAL O.A. SCHOOL (Accommodation, 80 Girls).

ADMISSION EXAMINATIONS.

No. of children examined	35
No. certified for admission	35

PERIODICAL EXAMINATIONS.

Children who improved sufficiently to be transferred to Ordinary Schools	19
Children who left at 14 years of age, or over, whose physical condition was satisfactory	13
Children withdrawn by parents	8
Children removed to Hospital	2
Children transferred to M.D. Schools	5
Children transferred to Day O.A. Schools	5
Child transferred to Switzerland for treatment	1

The average time spent by children at the Cropwood School was 17 months.

HUNTERS HILL RESIDENTIAL O.A. SCHOOL (Accommodation, 120 Boys).

ADMISSION EXAMINATIONS.

No. of children examined	35
No. certified for admission	35

PERIODICAL EXAMINATIONS.

Children who improved sufficiently to be transferred to ordinary schools	46
Children who left at 14 years of age, whose physical condition was satisfactory	16
Child withdrawn by parents	1
Children transferred to Day (O.A.) Schools	2
Child transferred to Hospital	1
Children transferred to M.D. Schools	6
Child transferred to P.D. School	1
Children who left City	4

The average length of stay at the School of the children referred to above was 13 months.

CITY OF BIRMINGHAM

Education Committee

Appendix to Annual Report
of
School Medical Officer
for the year ended 31st December, 1934.

OFFICIAL TABLES

Elementary Schools.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Inspections in the prescribed Groups:	
Entrants	14,804
Second Age Group	12,817
Third Age Group	14,471
Total	42,092
No. of other Routine Inspections	—

B. OTHER INSPECTIONS.

Number of Special Inspections	38,505
Number of Re-inspections	52,939
Total	91,444

TABLE II.

A: RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST December, 1934.

	Defect or Disease.	Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring treatment.	Requiring to be kept under observation, but *not* requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but *not* requiring treatment.
	(1)	(2)	(3)	(4)	(5)
	Malnutrition	179	254	444	32
Skin	Ringworm :				
	Scalp	4	—	79	—
	Body	8	—	261	1
	Scabies	16	—	568	3
	Impetigo	80	—	2,910	—
	Other Diseases (non-Tuberculous)	248	14	3,921	1
Eye	Blepharitis	113	2	528	1
	Conjunctivitis	28	—	706	—
	Keratitis	14	—	17	—
	Corneal Opacities	3	12	41	1
	Defective Vision (excluding Squint)	2,135	508	2,577	57
	Squint	386	131	510	7
	Other Conditions	33	6	483	3
Ear	Defective Hearing	146	20	415	14
	Otitis Media	210	8	1,100	—
	Other Ear Diseases	95	4	657	10
Nose and Throat	Chronic Tonsillitis only	185	262	282	5
	Adenoids only	71	4	95	6
	Chronic Tonsillitis and Adenoids	1,786	610	1,466	36
	Other Conditions	276	20	2,849	5
Enlarged Cervical Glands (Non-Tuberculous)		37	135	538	5
Defective Speech		63	14	82	9
Heart and Circulation.	Heart Disease :				
	Organic	94	58	185	48
	Functional	20	34	82	22
	Anaemia	430	1	728	—
Lungs	Bronchitis	472	24	1,488	6
	Other Non-Tuberculous Diseases	43	7	247	3
Tuberculosis	Pulmonary :				
	Definite	2	3	28	4
	Suspected	31	8	78	12
	Non-pulmonary :				
	Glands	4	1	8	—
	Bones and Joints	12	8	9	3
	Skin	2	—	2	—
	Other Forms	1	1	9	1
Nervous System.	Epilepsy	18	13	72	19
	Chorea	20	7	257	1
	Other Conditions	29	11	51	11
Deformities	Rickets	24	8	18	2
	Spinal Curvature	150	11	78	3
	Other Forms	281	45	347	45
Other Defects and Diseases (excluding Uncleaniness and Dental Diseases)		843	87	13,840	165
	Total	8,592	2,331	38,056	541

B. NUMBER OF *individual Children* FOUND AT *Routine* MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group.	Number of Children.	
	Inspected.	Found to require treatment.
(1)	(2)	(3)
PRESCRIBED GROUPS :		
Entrants	14,804	2,977
Second Age Group	12,817	2,599
Third Age Group	14,471	2,581
Total (prescribed groups)	42,092	8,157
Other routine inspections	—	—
Grand Total	42,092	8,157

TABLE III.—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Total.
Blind.		At Certified Schools for the Blind	40
		At no School or Institution	—
Partially Sighted.		At Certified Schools for the Blind	23
		At Certified Schools for the Partially Sighted.....	116
		At Public Elementary Schools	4
		At other Institutions	2
		At no School	3
Deaf		At Certified Schools for the Deaf	109
		At no School	3
Partially-Deaf.		At Certified Schools for the Deaf	28
		At Public Elementary Schools	1
		At no School	—
Mentally Defective		At Certified Schools for Mentally Defective Children	1338
		At Public Elementary Schools	31*
		At other Institutions	35
		At no School or Institution	1
Epileptics	Suffering from severe epilepsy.	At Certified Special Schools	12
		At Public Elementary Schools	1
		At no School or Institution	3
Physically Defective	Suffering from pulmonary tuberculosis.	At Public Elementary Schools	15
		At Sanatoria approved by the Ministry of Health	67
		At no School or Institution	6

* Certified as mentally-defective and awaiting admission to Special Schools. There are in addition 337 children in attendance at Public Elementary Schools who have been reported as probably mentally-defective and who await examination.

TABLE III. *Contd.*— RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Total.
Physically Defective.	Suffering from non-pulmonary tuberculosis.	At Certified Special Schools	62
		At Public Elementary Schools	21
		At other Institutions	27
		At no School or Institution	7
	Delicate Children, *i.e.*, all children (except those included in other groups) whose general health renders it desirable that they should be specially selected for admission to an Open Air School.	At Certified Special Schools	577
		At Public Elementary Schools	65*
		At other Institutions	2
		At no School or Institution	8
	Crippled Children (other than those diagnosed as tuberculous) who are suffering from a degree of crippling sufficiently severe to interfere materially with a child's normal mode of life.	At Certified Special Schools	195
		At Public Elementary Schools	280
		At other Institutions	—
		At no School or Institution	12
	Children with heart disease, *i.e.*, children whose defect is so severe as to necessitate the provision of educational facilities other than those of the public elementary school.	At Certified Special Schools	143
		At Public Elementary Schools	9
		At other Institutions	5
		At no School or Institution	30

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* Awaiting admission to Open Air Schools. In addition there are 201 children attending Public Elementary Schools who have been reported for examination with a view to admission to Open-Air Schools.

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1934.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group VI.)

Disease or Defect	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)
Skin—			
Ringworm-Scalp:			
(i) X-ray Treatment	62	4	76
(ii) Other	10		
Ringworm-Body	223	7	230
Scabies	489	9	498
Impetigo	2,765	37	2,802
Other skin disease	3,661	165	3,826
Minor Eye Defects .... (External and other, but excluding cases falling in Group II.).	1,565	100	1,665
Minor Ear Defects	1,780	138	1,918
Miscellaneous .... (*e.g.*, minor injuries, bruises, sores, chilblains, etc.).	6,542	519	7,061
Total	17,097	979	18,076

TABLE IV. (*Contd.*)

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.).

Defect or Disease. (1)	No. of Defects dealt with.			No. of children for whom spectacles were			
	Under the Authority's Scheme (*see note b*). (2)	Otherwise. (3)	Total. (4)	Prescribed (1)		Obtained (2)	
				(i) Under the Authority's Scheme.	(ii) Otherwise.	(i) Under the Authority's Scheme.	(ii) Otherwise.
Errors of Refraction (including squint). (Operations for squint should be recorded separately in the body of the School Medical Officer's Report).	3,731	376	4,107				
Other Defect or Disease of the Eyes (excluding those recorded in Group I).	16	20	36				
Total	3,747	396	4,143	3,372	330	3,370	477

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.

Received Operative Treatment.												Received other forms of Treatment. (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)				Total. (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	1,307	20	47	14	386	51	47	14	1,693	71	2,506	4,331

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils & Adenoids. (iv) Other defects of the nose and throat.

TABLE IV. (*Contd.*)

Group IV.—Orthopædic and Postural Defects.

	Under the Authority's Scheme (1)			Otherwise. (2)			Total number treated.
	Residential treatment with education. (i)	Residential treatment without education. (ii)	Non-residential treatment at an orthopaedic clinic. (iii)	Residential treatment with education. (i)	Residential treatment without education. (ii)	Non-residential treatment at an orthopaedic clinic. (iii)	
Number of children treated.	181	2	2,541	5	23	125	2,877

Group V.—Dental Defects.

(1) Number of Children who were :—

(i) Inspected by the Dentist :

	Aged :		
Routine Age Groups	5	14,853	Total 129,193
	6	12,887	
	7	14,126	
	8	13,943	
	9	14,436	
	10	14,581	
	11	14,007	
	12	14,360	
	13	14,689	
	14	1,311	

Specials 288

Grand Total 129,481

(ii) Found to require treatment 84,031

(iii) Actually treated 40,482

(2) Half-days devoted to Inspection ..... 674, Treatment ..... 2,995 — Total 3,669

(3) Attendances made by children for treatment 47,176

(4) Fillings: Permanent teeth 17,230, Temporary teeth 1,050 — Total 18,280

(5) Extractions: Permanent teeth 22,677, Temporary teeth 78,652 — Total 101,329

(6) Administrations of general anaesthetics for extractions 20,526

(7) Other operations: Permanent teeth 3,174, Temporary teeth 4,515 — Total 7,689

Group VI.—Uncleanliness and verminous conditions.

(i.) Average number of visits per school made during the year by the School Nurses...............11.73.

(ii.) Total number of examinations of children in the Schools by School Nurses.......... ....479,839.

(iii.) Number of individual children found unclean...............14,605.

(iv.) Number of children cleansed under arrangements made by the Local Education Authority...............215.

(v.) Number of cases in which legal proceedings were taken :

(*a*) Under the Education Act, 1921...............Nil.

(*b*) Under the School Attendance Bye-laws ....89.

SECONDARY SCHOOLS

AND

OTHER INSTITUTIONS FOR HIGHER EDUCATION

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1934, TO 31ST DECEMBER, 1934

Number of Routine Medical Inspections	7,287
Number of Special Medical Inspections	182
Number of Re-inspections	536
Total	8,005
Number of Individual Children found to require Treatment	1,278
Percentage of Children found to require Treatment	15.95

TABLE II. (SECONDARY SCHOOLS).

A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST DECEMBER, 1934.

Defect or Disease. (1)		Routine Inspections. No. of Defects. Requiring treatment. (2)	Routine Inspections. No. of Defects. Requiring to be kept under observation, but *not* requiring treatment. (3)	Special Inspections. No. of Defects. Requiring treatment. (4)	Special Inspections. No. of Defects. Requiring to be kept under observation, but *not* requiring treatment. (5)
	Malnutrition	11	12	1	—
Skin	Ringworm :				
	Scalp	—	—	—	—
	Body	—	—	—	—
	Scabies	3	—	—	—
	Impetigo	1	—	1	1
	Other Diseases (non-Tuberculous)	69	6	1	—
Eye	Blepharitis	10	—	1	—
	Conjunctivitis	4	1	—	—
	Keratitis	—	—	—	—
	Corneal Opacities	3	2	4	—
	Defective Vision (excluding Squint)	580	340	42	7
	Squint	12	13	—	—
	Other Conditions	9	4	—	1
Ear	Defective Hearing	9	1	—	—
	Otitis Media	17	—	2	—
	Other Ear Diseases	4	—	2	—
Nose and Throat	Enlarged Tonsils only	20	21	—	2
	Adenoids only	2	1	—	—
	Enlarged Tonsils and Adenoids	84	61	17	7
	Other Conditions	69	10	9	1
Enlarged Cervical Glands (Non-Tuberculous)		1	1	—	—
Defective Speech		16	—	—	—
Teeth—Dental Diseases (See Table IV., Group IV.).		649	4	28	7
Heart and Circulation	Heart Disease :				
	Organic	6	8	3	1
	Functional	4	14	1	2
	Anaemia	40	4	6	1
Lungs	Bronchitis	10	—	—	—
	Other Non-Tuberculous Diseases	8	4	—	—
Tuberculosis	Pulmonary :				
	Definite	—	—	1	—
	Suspected	2	5	—	1
	Non-pulmonary :				
	Glands	—	—	—	—
	Spine	—	—	—	—
	Hip	—	1	—	—
	Other Bones and Joints	—	—	—	—
	Skin	—	—	—	—
	Other Forms	—	—	—	—
Nervous System	Epilepsy	2	—	—	—
	Chorea	—	2	—	3
	Other Conditions	2	1	—	—
Deformities	Rickets	3	—	—	—
	Spinal Curvature	76	15	11	2
	Other Forms	120	15	22	2
Other Defects and Diseases		115	46	32	5
	Total	1,961	592	184	43

TABLE IV. (SECONDARY SCHOOLS)—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1934.

TREATMENT TABLE.

Group I. Minor Ailments (excluding Uncleanliness).

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year. Under the Authority's Scheme. (2)	Otherwise (3)	Total. (4)
Skin —			
Ringworm-Scalp :			
(i) X-ray Treatment			
(ii) Other	—	—	—
Ringworm-Body	—	—	—
Scabies	1	1	2
Impetigo	13	—	13
Other skin disease	35	21	56
Minor Eye Defects .... (External and other, but excluding cases falling in Group II.)	15	5	20
Minor Ear Defects	8	26	34
Miscellaneous .... (*e.g.*, minor injuries, bruises, sores, chilblains, etc.).	33	21	54
Total	105	74	179

TABLE IV. (SECONDARY SCHOOLS) (*Contd.*)

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.).

Defect or Disease.	No. of Defects dealt with.			No. of children for whom spectacles were			
				Prescribed (1)		Obtained (2)	
	Under the Authority's Scheme (*see note b*).	Otherwise.	Total.	(i) Under the Authority's Scheme.	(ii) Otherwise.	(i) Under the Authority's Scheme.	(ii) Otherwise.
(1)	(2)	(3)	(4)				
Errors of Refraction (including squint). (Operations for squint should be recorded separately in the body of the School Medical Officer's Report).	77	275	352				
Other Defect or Disease of the Eyes (excluding those recorded in Group I).	4	1	5				
Total	81	276	357	77	236	77	278

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.

Received Operative Treatment.												Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)				Total. (3)				(4)	(5)
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	68	109
–	–	2	–	2	2	25	10	2	2	27	10		

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils & Adenoids. (iv) Other defects of the nose and throat.

TABLE IV. (SECONDARY SCHOOLS) (*Contd.*)

Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme (1)			Otherwise. (2)			Total number treated.
	Residential treatment with education. (i)	Residential treatment without education. (ii	Non-residential treatment at an orthopaedic clinic. (iii)	Residential treatment with education. (i)	Residential treatment without education. (ii)	Non-residential treatment at an orthopaedic clinic. (iii)	
Number of children treated.	—	—	52	—	1	24	77

Group V.—Dental Defects.

(1) Number of Children who were actually treated 166

(2) Half-days devoted to { Inspection / Treatment } (Carried out in conjunction with work for Elementary Schools).

(3) Attendances made by children for treatment 216.

(4) Fillings { Permanent teeth ..... 111 / Temporary teeth ..... 1 } Total 112.

(5) Extractions { Permanent teeth ..... 291 / Temporary teeth ..... 93 } Total 384.

(6) Administrations of general anaesthetics for extractions 134.

(7) Other operations { Permanent teeth ..... 16 / Temporary teeth ..... 2 } Total 18.

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